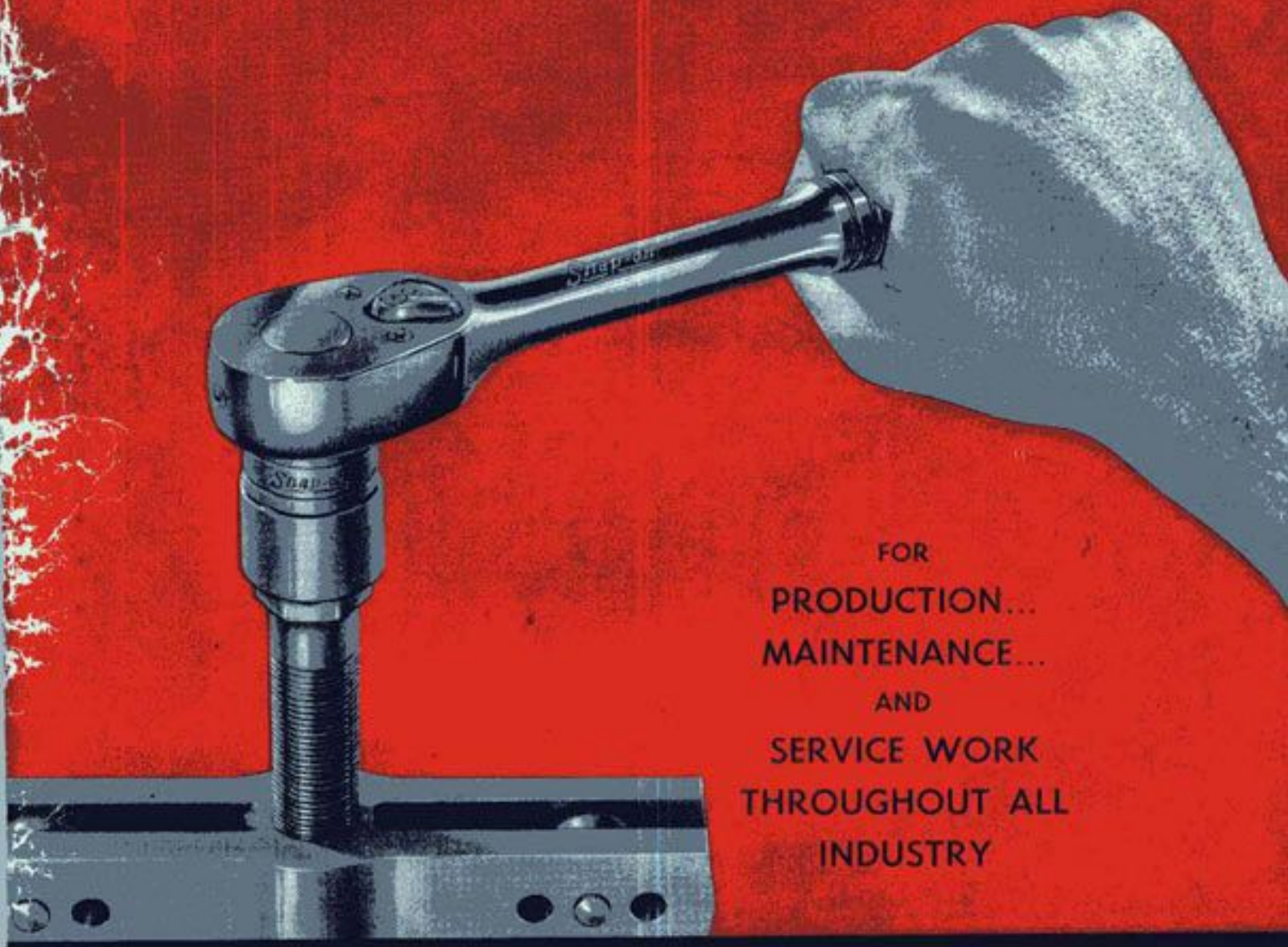
1955

Snap-on Tools

"THE CHOICE OF BETTER MECHANICS"



FOR
PRODUCTION...
MAINTENANCE...
AND
SERVICE WORK
THROUGHOUT ALL
INDUSTRY

SNAP-ON TOOLS CORPORATION KENOSHA, WISCONSIN

CATALOG "U"

*Snap-on Tools

"The Choice of Better Mechanics"

LOOK BETTER — WORK BETTER — WEAR BETTER BECAUSE THEY ARE MADE BETTER

HAMMER FORGING

Here Are Just a Few of the Reasons

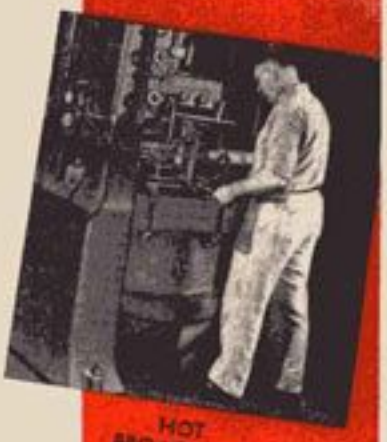
The first operation in the manufacture of many Snap-on tools is the production of top quality forgings. Necessary dies are produced in our own die sinking departments by men especially trained to this critical and painstaking work. During the actual forging operation the red hot steel is subjected to tremendous hammer blows which not only shape the steel in the dies but refine the grain structure of the steel and toughen it. Only superior quality forgings are used in the production of Snap-on tools.

EXPERT TOOLING

Before a new tool can be produced in large quantities it is necessary to create many special machine fixtures. These fixtures hold the units in exactly the right position to insure that milling, stamping, drilling, punching, tapping, broaching operations, etc., will be identical on each. Skilled machinists using the most modern equipment work to exacting standards of precision in the making of these fixtures to insure accuracy in every Snap-on tool you buy.

AUTOMATIC MACHINING

Batteries of four and six spindle type automatic screw machines, like the one at the left, perform the first several operations on sockets and handles and many other Snap-on products. These machines, set up and controlled by expert operators, assure precision production of large volume runs with a degree of uniformity obtainable by no other method.

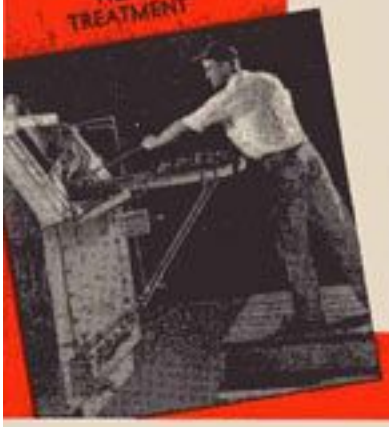


HOT BROACHING

The inside walls and corners or teeth of a Snap-on socket are smooth and free from tears or cracks, making them very strong and desirable and properly sized. To obtain these qualities the socket blanks are heated to allow the metal to "flow" easily into shape when the broaching tool is forced into what was originally a round hole. This is just one reason why Snap-on tools look better—work better—and wear better.

HEAT TREATMENT

A Snap-on tool is tough on the inside as well as the outside because it is heat treated all the way through. An inferior tool may be case hardened on the outside, but, because it is soft inside, it cannot give lasting performance. Every Snap-on tool is given the right balance of toughness and hardness to perform its particular function properly under all working conditions for a long time to come.



HYDRAULIC TESTING

Why and where does a tool break? Where and how can it be redesigned to withstand breakage? These questions are answered in the torture rack shown at right. Under terrific pressure many times greater than a tool user could apply, this hydraulic equipment tests the breaking point of every type of Snap-on tool. It is because of constant testing and inspection that we say Snap-on tools are the highest quality it is possible to produce.

*"Snap-on" is the trademark of Snap-on Tools Corporation

Snap-on Tools

ARE SOLD DIRECTLY TO INDUSTRY AND TO THE SERVICE MECHANIC

YOU WILL NOT FIND THEM AVAILABLE AT JOBBER OR MILL SUPPLY HOUSES, HARDWARE STORES, ETC.

Stocks are warehoused at 42 Snap-on branches

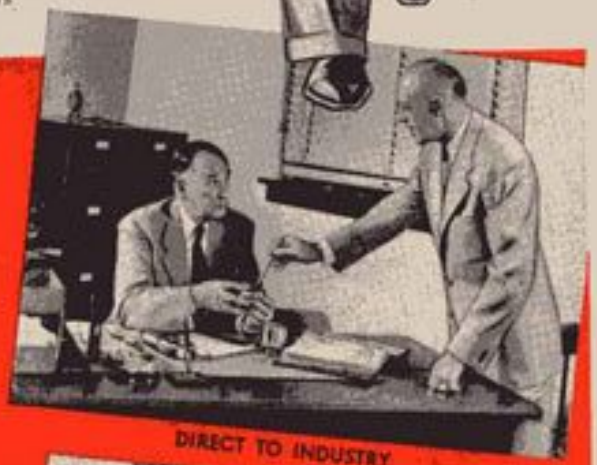
Snap-on's 42 branch offices are geared to render a dependable and personalized service to industrial buyers, professional mechanics, and other users of quality tools. Each office, located in a key industrial center, maintains a complete stock of tools to assure fast deliveries to customers. Snap-on representatives trained to recognize plant maintenance and production tool requirements serve industrial customers.

Regular Calls — Bring Tools to Your Shop — Where You Try Before You Buy

Each one of over 740 Snap-on trained men are established businessmen serving professional mechanics and other tool users in their area through regular calls at their places of business. Snap-on tools are brought to the work bench where the shop owner or mechanic can try them and determine their time-saving features and high quality workmanship before he buys. The Snap-on man keeps them informed on the latest tool developments and renders a personal service which is regular and dependable.

Guarantee

"Snap-on and Blue Point tools are built to meet the exacting and particular working requirements of professional mechanics. The product of an organization that is committed to the highest quality it is possible to produce. "Every tool manufactured and sold by this company has been carefully inspected before leaving the factory and, to best of our knowledge, is free from defects in materials or workmanship. Any tool found to be defective in *materials* or *workmanship* will be repaired or replaced cheerfully. Tools which have failed for reasons other than those stated above, or because of abuse, intentional or unintentional, will not be replaced.



DIRECT TO INDUSTRY

DIRECT TO MECHANIC

Here are the very best ways to buy the best mechanics tools

1 If you are located near one of the Snap-on branch sales offices listed below, come in and examine the tools listed in this catalog . . . see for yourself the outstanding quality of Snap-on products. We will be glad to demonstrate any tools for you or help you select those best suited to your needs.

2 Over 750 Snap-on "men" call regularly on garage and industrial shops coast-to-coast—one of these men covers your vicinity. Write or phone the nearest Snap-on branch and ask to have the Snap-on "man" call on you. He will show you the tools you are interested in—make delivery from his car stock—or arrange prompt shipment from the branch.

3 Select from the catalog the tools you need and use the order form provided for your convenience. Tools will be shipped promptly from our nearest branch office or delivered personally by the local Snap-on "man." To assure your complete satisfaction with purchases ordered and delivered by mail, we ask that you examine your purchase and, if for any reason a tool fails to meet with your approval, return it to us unused within ten days' time . . . we will gladly replace it with a similar tool or refund its cost, whichever you specify.

Professional mechanics throughout industry—in every phase of product assembly, plant maintenance and customer service depend upon Snap-on tools—because they know that fine tool equipment pays big dividends in speed, fine workmanship and safety. The leader in the tool field for over 30 years, Snap-on can always be depended upon to serve you best with the finest tools that can be produced . . . let the actual working performance convince you of Snap-on superior design, construction and quality.

USE SNAP-ON'S DEFERRED PAYMENT PLAN

This plan makes it easy for you to buy all the tools you need today to help you work more profitably. Any order of $50.00 or over can be purchased by using Snap-on's easy payment plan. You can pay in convenient monthly installments. The local "Snap-on man" will gladly give you complete information . . . or simply use the enclosed mail order form requesting information or phone the branch address shown on the order form.

PRICES SHOWN IN SEPARATE PRICE INDEX ARE NET TO THE TRADE

We reserve the right to make changes in design or construction at any time without incurring any obligation to incorporate such changes in tools or equipment previously sold . . . also to discontinue the manufacture of any tools or equipment at such time as we deem it necessary to do so.

★Note: This symbol is used throughout the catalog to indicate those tools which, because of their nature, are liable to abuse and therefore are not subject to replacement.

All dimensions shown in this catalog are subject to commercial tolerances.

CATALOG "U" ISSUED MARCH, 1953

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SNAP-ON TOOLS CORPORATION

Manufacturers and Exclusive Distributors

KENOSHA, WISCONSIN

Factories: Kenosha, Wis., Mt. Carmel, Ill., Newport, Pa., Toronto, Ont.

★ ★ ★

BRANCH SALES OFFICES LOCATED IN 42 PRINCIPAL CITIES PROVIDE SNAP-ON SERVICE TO ALL IMPORTANT INDUSTRIAL AREAS

ALBANY 5, N. Y.
546 Clinton Ave.

ATLANTA, GA.
380 Techwood Drive, N.W.

BALTIMORE 18, MD.
1209 E. 25th St.

BOSTON 35, MASS.
116 N. Beacon St.
(Brighton District)

BROOKLYN 25, N. Y.
1649 Bedford Ave.

BUFFALO 13, N. Y.
628 W. Utica St.

CHARLOTTE 6, N. C.
915 S. Clarkson St.

CHICAGO 7, ILL.
120 N. May St.

CINCINNATI 6, OHIO
605 E. McMillan St.

CLEVELAND 15, OHIO
2912 Euclid Ave.

DALLAS 1, TEXAS
2932 Commerce St.

DENVER 3, COLO.
1050 Broadway

DETROIT 2, MICH.
93 Piquette Ave.

EDMONTON, ALBERTA
10232 103rd St.

FARGO, N. DAK.
421 N. P. Ave.

HOUSTON 3, TEXAS
1810 LaBranch St.

INDIANAPOLIS 2, IND.
848 Fort Wayne Ave.

JACKSONVILLE 6, FLA.
1602 Walnut St.

KANSAS CITY 2, MO.
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LONDON, ONTARIO
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LOS ANGELES 17, CALIF.
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MILWAUKEE 3, WIS.
2600 W. State St.

MINNEAPOLIS 3, MINN.
1218 Harmon Place

MONCTON, N. B.
27 Pearl St.

MONTREAL 15, QUEBEC
751 Jean Talon St. West

NEWARK 6, N. J.
823 Sandford Ave.

NEW ORLEANS 13, LA.
1040 Camp St.

NEW YORK 67, N. Y.
2807 White Plains Road

OKLAHOMA CITY 3, OKLA.
901 N. Hudson St.

OMAHA 2, NEBR.
109 S. 24th St.

PHILADELPHIA 30, PA.
1710 Fairmount Ave.

PITTSBURGH 8, PA.
7007 Kelly St.

REGINA, SASK.
2070 Albert St.

RICHMOND 20, VA.
1617 West Broad St.

SAN FRANCISCO 2, CALIF.
635 Golden Gate Ave.

SEATTLE 22, WASH.
1501 Olive Way

ST. LOUIS 3, MO.
2647 Washington Blvd.

SYRACUSE 3, N. Y.
323 Irving Ave.

TOLEDO 6, OHIO
2932 Monroe St.

TORONTO 17, ONT.
130 Laird Drive
(Station K, Leaside)

VANCOUVER, B. C.
1043 Davie St.

WINNIPEG, MANIT.
1099 Portage Ave.

INDUSTRIAL AND RAILROAD DEPT.
2905 - 60th St., Kenosha, Wis.

INTERNATIONAL DIVISION
8028 - 28th Ave., Kenosha, Wis., U.S.A.
Cable Address: "Snapon." All Codes

SERVING BUSINESS EVERYWHERE WITH TOOLS FOR BETTER SERVICE

Snap-on SUPERCHEST AND ROLL-CAB

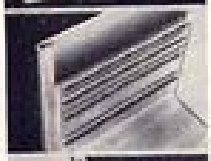
EXTRA HEAVY GAUGE STEEL–WELDED TO GIVE LIFETIME SERVICE

THIS Snap-on SUPER COMBINATION HOLDS THE LARGEST TOOL ASSORTMENT

KR-361 Snap-on Super Combination. Here is truly the last word in a matching chest and roll-cab . . . so far ahead of any similar equipment that there is absolutely no comparison. It is designed to give you convenient, safe storage for everything from Midget tools to large pullers, drills, etc. It is ruggedly built from extra heavy gauge steel, welded and reinforced for strength and rigidity. Check its net weight of approximately 250 lbs. against any other similar equipment. In addition, it is also an impressive addition to any shop with its rich red backed-on enamel finish and chromium trim.

Full length piano-type hinges are used on doors and lids to provide greater strength and finest appearance.

A steel channel panel welded inside the lid adds rigidity and structural strength . . . prevents warping the lid or the hinge.



Drawer runners are attached to extra steel plates welded into the chest and cab. This construction adds to the strength and rigidity of the unit.

A folding brace at each end of the chest holds the lid in open position.

Space dividers also serve as reinforcing braces. Welded to bottom and sides of drawer they prevent sagging or buckling.

SNAP-ON SUPERCHEST

KR-61 Snap-on Superchest. 7 Drawers segregate your hand tools for fast, convenient selection and checking. Each drawer has Non-Spill slide runs for easy action . . . cannot pull out or tip and spill contents. Has piano-type hinges, tumbler-type lock, trunk-type carrying handles.

Size: 31" long, 15" wide, 17" high.

Top Compartment: divided into four sections—one fits the KTR-1 Tote Tray (see page 6).

Drawers: 3 are 8½" x 13" x 1" high.
1 is 27½" x 13" x 1" high.
2 are 27½" x 13" x 1⅝" high.
1 is 27½" x 13" x 3¼" high.

Shipping weight 137 lbs., net 122 lbs.

SNAP-ON SUPER ROLL CAB

KR-302 Snap-on Super Roll-Cab. There's plenty of room in these large Non-Spill slide run drawers and large open compartment to store all your larger tools and equipment. The Cab rolls easily on 3" plate-type silent-rubber casters (2 swivel and 2 fixed)—even when fully loaded. Large chromium plated door handles have tumbler type lock. Doors have full length piano-type hinges.

Cab Size: 31" high, 33" long, 17" wide.

Drawers: 2 are 16" x 12" x 2½" high.
1 is 16" x 24¾" x 4¼" high.
1 is 16" x 24¾" x 6¼" high.

Compartment: is 16½" x 33" x 11" high.

Shipping weight 153 lbs., net 122 lbs.

Drawers slide easily on full length slide-runs. They will not sag or pull out accidentally even when heavily loaded with tools.

Note how close the spot welds are on a Snap-on chest or cab . . . only 2½" to 3" apart. Extra welds mean extra dollars worth of wear for you.

Whenever it will add strength or rigidity, edges are double rolled. This more costly construction adds years of satisfactory use.

Rounded corners and edges are smoothed with file and emery cloth before the rich red enamel finish is applied to the metal.

Sensible trunk type carrying handles. Strong enough to lift the heaviest chest load . . . big enough to hold without pinching or cutting fingers.

Snap-on WELDED STEEL COASTER-CAB

WITH LOWER DRAWER SECTION AS OPTIONAL EQUIPMENT

Modern! Convenient! Practical!
Rolls Right to the Job—No Lost Time—No Hunting for Tools

KR-377A SNAP-ON COASTER CAB

Modernize your shop with roller cab convenience . . . stop jockeying cars to the bench—take the bench to the car. Here is plenty of storage room for all your tools from Midget units to large drills, gear pullers, and other equipment . . . built into a rolling work bench of a size, construction, and appearance that make it a unit you'll be proud to own. It is ruggedly built of heavy gauge steel and electrically welded for greatest strength and rigidity.

A "drop-in" front panel encloses the lower compartment and slides into a rack under the lower drawer. One padlock locks the entire contents. Heavy gauge, flat metal top provides plenty of working space. Oversize casters (2 swivel, 2 fixed) roll your "Coaster-Cab" easily and quietly to the job. The attractive red enamel finish is oven baked at high temperature so the cabinet will keep that new, glossy finish indefinitely.

Four Sturdy, Roomy Drawers

The four full length drawers provide ample space for wrenches and hand tools—even those long sliding bars, extensions, etc. Each drawer is equipped with "Non-spill" slide runs, and the large bottom drawer has double sets of runs. Even when heavily loaded these drawers will slide easily and without sagging, binding, tipping, or pulling out completely and spilling.

Specifications

Overall dimensions: 26½" long, 18½" wide, 36" high.
Two top drawers: 20¾" long, 16¾" wide and 2" high.
One drawer is 20¾" long, 16¾" wide and 3" high.
One drawer is 20¾" long, 16¾" wide and 4½" high.
Compartment is 26¼" long, 18¼" wide and 16" high.
Net Weight: 144 lbs., Shpg. Wt. 153 lbs.

KR-437 OPTIONAL 3-DRAWER SECTION

For the man who prefers extra drawer space rather than the lower open compartment we can now supply this three drawer section. It fits both the welded Coaster Cab illustrated and previous bolted models and is quickly installed by bolting into existing bolt holes. The section consists of three drawers, two false sides, and a top panel. Note: the optional 3-drawer section is packed as a separate unit and is not installed into the Cab at the factory.

Specifications

Top Drawer: 20¾"x16¾"x3".
Two Lower Drawers: 20¾"x16¾x4½".
Net Weight: 55 lbs., Shpg. Wt. 59 lbs.

Snap-on GABLE-ROOF MECHANIKIT

It's Big and Ruggedly Built — Has Slide Run Drawers

KRD-21 Mechanikit. Designed to help the mechanic work more efficiently by putting all his tools within easy reach. Offers many features which have made it the choice of thousands of professional mechanics.

The generous overall size—21" long, 8½" wide and 11¼" high provides ample storage space for the average kit of tools and wrenches. The lid has full length piano-type hinge and is gable shaped to give maximum tool space and provides the needed height for the handle of the KTRD-1 Tote-Tray which fits snugly in the top compartment. The tray is furnished with the KRD-21 Mechanikit at no extra cost.

Top drawer is 19¾" long, 7¾" wide and 1½" high with four compartments for small tools. Bottom drawer is 19¾" by 7¾" and 2" high and has a sliding tray for very small tools and parts. Each drawer is fitted with "non-spill" slide runs which permit opening drawers without them sagging or falling out. Drawers glide easily even when fully loaded.

Heavy gauge steel is electrically welded for greatest rigidity and strength. When opened, the piano-hinged front drops down out of the way of the drawers. When closed the front secures to top with snap fasteners. Has a strong padlock hasp. For easy carrying the kit has a sturdy leather suitcase type handle. Finished in baked-on red enamel.

Snap-on ROLLA-BENCH

TAKES TOOLS AND WORK BENCH RIGHT TO THE JOB

This roll front is constructed of interlocking steel panels, and it slides out of sight along full length channels that prevent binding and assure free movement. It is an especially handy feature where limited space would make open panel type doors an inconvenience. A tumbler type lock shown at right serves the roll front.

DESIGN
PATENT NO.
126,215

A Portable Work Bench and a Roomy Tool and Equipment Cabinet in One Unit

One of the most effective ways to use your valuable floor space to better advantage is to rid your shop of cumbersome, old-fashioned benches that become catch-alls for everything while providing inadequate tool storage and replace them with modern Snap-on Rolla-Benches. Enjoy all the advantages of a portable work bench and the conveniences of a fine tool cabinet. Here you have ample facilities for the orderly arrangement of your wrenches and hand tools and storage space for electric drills, impact wrench, or other bulky pieces of equipment.

The masonite covered top has a reinforced steel base and is ruggedly built to afford a sturdy stand for a vise, bench grinder, etc. A double-electrical outlet for connecting electrical equipment and a 3-wire cable for connecting to the power line and grounding is located at the back of the bench . . . see picture at right. All drawers are fitted with "non-spill" slide runs—they glide in and out easily even when loaded—they have a fixed stop which prevents them from pulling out completely and spilling the contents, and they will not tip and bind when open.

The Rolla-Bench rolls easily on large hard rubber casters, two of which have locks to hold the bench steady during use . . . see picture at right. The lighting fixture is sturdily constructed and has a flexible top to permit turning the light where needed . . . wiring runs from the base of the stand and plugs into one of the rear receptacles. The entire bench is heavy gauge steel construction, electrically welded for greatest strength and long service and is finished in baked-on enamel with chromium trim.

Models Available

KR-300B Standard Rolla-Bench. With light fixture and electric wiring as described above . . . baked-on red enamel finish.

KRH-300 Special Red Rolla-Bench. Without light and wiring . . . baked-on red enamel finish.

KGH-300 Special Grey Rolla-Bench. Without light and wiring . . . baked-on grey enamel finish.

KWH-300 Special White Rolla-Bench. Without light and wiring . . . baked-on white enamel finish. This model has become very popular for use in hospital orthopedic wards.

Rolla-Bench Specifications

Overall dimensions: 34" long, 18" wide, 36" high.

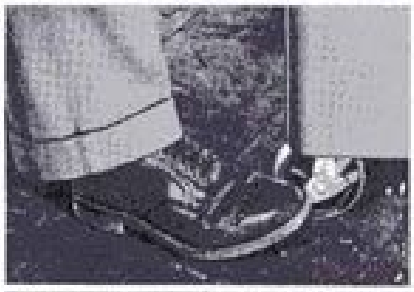
Three small drawers: 8½" wide, 12½" long, 1 11/16" high.

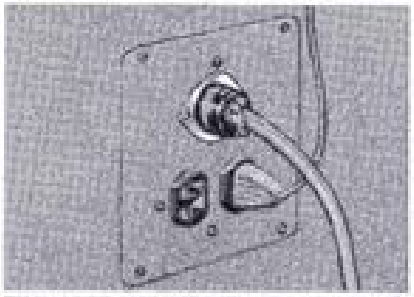
Top long drawer: 26½" long, 12½" wide, 1 11/16" high.

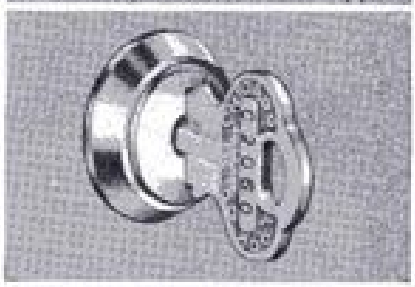
Two bottom long drawers: 26½" long, 12½" wide, and 3 13/16" high.

Open compartment: 34" long, 17" wide, 13¾" high.

Net weight: 165 lbs., shipping wgt. 194 lbs.







Lower Drawer Section for Rolla-Bench

Some owners of the Snap-on Rolla-Bench prefer extra drawer space rather than the open compartment, and a sectional set of three drawers is now available. The set includes two false sides which bolt into existing holes in any model Rolla-Bench and are easily installed. Note: The drawer set is packed separately and is not installed into the bench at the factory.

Models Available

KR-431 Red enameled 3-drawer section.
KG-431 Grey enameled 3-drawer section.
KW-431 White enameled 3-drawer section.

Specifications

Top Drawer: 26½" x 12½" x 1⅝".
Two Lower Drawers: 26½" x 12½" x 3¾".
Net Weight: 40 lbs., shpg. wt. 45 lbs.

Snap-on TRIPLE-UNIT TOOL CABINET

USE THE THREE UNITS SEPARATELY OR IN COMBINATION

FULL LENGTH DRAWERS

SLIDE-RUN DRAWERS

REINFORCED LID

PIANO-TYPE HINGES

TUBE-TYPE CORNERS

TUMBLER TYPE LOCK

A

B

C

BIG, SIX DRAWER TOOL CHEST

Ⓐ **KR-56 Tool Chest.** Overall measurements are 26" long, 12" wide and 14" high. Has 2 extra strong trunk type handles. Lid is reinforced and has full length piano type hinges and tumbler type lock. Top has three tool compartments 3½" deep; one is 20½" x 8½"; another is 25¾" x 3¼" and the third is 8½" x 5". Each drawer has slide-runs—cannot pull out or tip—gives convenient storage for small tools, micrometers, gauges, etc., and plenty of room for longer wrenches and tools. There are three small drawers of equal size, 10½" x 7½" x 1" high. Three bottom drawers are 24" x 10½"; one is 1" high, one is 1⅝" high and bottom drawer is 3½" high. Top compartment accommodates KTR-1 Tote-Tray. (Note: trays are not furnished with chest.) Red enamel finish. Shipping weight 80 lbs., net 63 lbs.

TWO-DRAWER SECTION

Ⓑ **KR-420 Two-Drawer Section.** Can be placed on the top of roll-cab or bench as a base for the above chest, or two or more sections can be stacked together to provide as many storage drawers as you need for tool crib or other use. Each drawer has tumbler type lock and no-spill slide-runs, and measures 23¾" x 11⅞" x 3". Overall measurements are 26" x 12" x 8" high. Corner guides keep KR-56 Chest or additional sections in place. Baked on red enamel is standard finish, but grey finish is available on special order. Net weight is 31 lbs. Shipping weight 35 lbs.

EASY MOVING ROLL-CAB

Ⓒ **KR-352 Roll-Cab.** Designed as a companion for tool chest shown above. The roomy drawers are automatically locked when the lower compartment panel is closed and locked. When opened the panel slides in under the drawers. Overall size is 26¼" long, 18" wide, 30" high. Three reinforced drawers have no-spill slide runs and are 21½" x 16⅞" x 4" high. Open compartment is 26" x 17¾" x 9¾" high. Extra heavy gauge steel is used to give rigidity and durability for hard, long service. Easy gliding 3" casters, (2 swivel, 2 fixed). Baked-on red enamel finish. Net Wt. 98 lbs., Sh. Wt. 113 lbs.

KR-357A Roll-Cab Combination. A two unit combination of KR-352 Roll-Cab and KR-56 Tool Chest.

KR-358A Three-unit Combination. For greatest working convenience we recommend the combination of KR-56 Chest, KR-420 Section and KR-352 Roll-Cab.

TOTE TRAY

KTR-1 Tote Tray. Fits the top compartment of the chest shown above. Has socket compartment and provides a convenient holder for the tools actually in use. Tray size is 20½" x 8" x 3¼" high. Baked-on red enamel finish.

SKID TRAY FOR KR-56 CHEST

KR-456 Skid Tray. This skid tray fits and bolts onto the KR-56 Chest and provides a reinforced bottom. Two steel runners take the wear and make it easier to skid the loaded chest over floors, on or off trucks, etc.

Snap-on ALL STEEL MECHANICHESTS

With Locking Front Panels—Big Sturdy Drawers

HEAVY GAUGE STEEL

TRUNK TYPE HANDLES

SLIDE-RUN DRAWERS

MANY SUPERIOR FEATURES

Snap-on Mechanichests have been selected by thousands of satisfied customers because they recognized that these chests give them exceptional value. Here is efficient arrangement of space . . . electrically welded heavy gauge steel construction which makes for strength and rigidity . . . "Non-spill" slide run drawer features which prevent sagging, binding, or pulling all the way out and spilling . . . full length piano type hinges on front panels and covers to add to the strength as well as the appearance of these chests . . . and big trunk-type side carrying handles. On both chests the folding front panel encloses all the drawers and when locked protects the contents. Finished in baked-on red enamel.

KR-53 MECHANICHEST

(A) **KR-53 Mechanichest.** In addition to all the features mentioned above this chest has additional points of superiority. The front panel is hinged to the cover and lifts up out of the way when the chest is opened . . . two folding brackets hold the cover in the open position. A tumbler type lock in front panel locks the entire contents. Both the cover and front panel have welded steel reinforcing channels on the inside to add rigidity and strength. The top compartment is partitioned in three sections, the largest of which fits the KTR-2 Tote Tray listed below. Note: this tray is not included with the chest.

SPECIFICATIONS

Overall Dimensions: 24⅛" long, 10½" wide, 11¾" high.
Top Compartment: 1¾" deep—divided into 3 sections, 23⅞" x 2¼", 19½" x 7⅛", 7⅜" x 4¼".
Top Drawer: 21⅜" x 8⅞" x 1⅜", divided into 4 sections.
Middle Drawer: 21¾" x 8⅞" x 2", divided into 2 sections.
Bottom Drawer: 21¾" x 8⅞" x 3⅛", no divisions.
Net Weight: 39 lbs., shipping weight 43½ lbs.

KR-23 MECHANICHEST

(B) **KR-23 Mechanichest.** This chest is about the same length and height as the KR-53 but is not quite as wide and is designed differently. It has all of the features listed at the top of this column and is an excellent tool chest. It gives you plenty of tool storage space, quality material and workmanship at low cost. The KTR-2 Tote Tray listed below will fit in the top compartment. Note: this tray is not included with the chest.

SPECIFICATIONS

Overall Dimensions: 24⅛" long, 8⅞" wide, 11⅝" high.
Top Compartment: 24" x 8" x 2 15/16", no divisions.
Top Drawer: 21⅝" x 7¼" x 1½", divided into 4 sections.
Middle Drawer: 21⅝" x 7¼" x 2", no divisions.
Bottom Drawer: 21⅝" x 7¼" x 3⅛", no divisions.
Net Weight: 32 lbs., shipping weight 36½ lbs.

TOOL TOTE TRAY

(C) **KTR-2 Tote Tray.** The handy way to carry small tools from bench to the job. Partitioned to segregate your sockets from other tools. Size 19" long, 7" wide, and 2⅝" high. Red enamel finish. This tray is not furnished with the Mechanichests shown above but will fit into the top compartments.

MIDGET TOOL CHEST

(D) **KR-65B Midget Tool Chest.** Built to hold a complete set of Midget Wrenches and tools, carburetor tools, radio service tools, or small parts. No drawers to pull out—no trays to lift out . . . the top section moves back on slide channels and the entire contents of the chest are visible at a glance. The many compartments segregate the contents to your liking and eliminate fumbling around to pick out the required item . . . bigger tools, such as punches, chisels, screw drivers, wrench handles, fit into the bottom sections.

Sturdily Constructed—Convenient to Carry

Overall size is 11¾" long, 7¾" wide, and 3½" high. Constructed of heavy gauge steel—electrically welded throughout. Two sturdy hinges and a tumbler type lock secure the contents, and a metal carrying handle is welded to the top of the cover. The chest is finished in baked-on red enamel.

Helps to Put More Work Minutes Into Every Maintenance Hour . . . Conserves Available Labor and Cuts "Down-Time" to a Minimum

KR-396 Industrial Roll Cab. Maintenance engineers throughout industry have found that the use of this rolling work shop materially increases the efficiency of their maintenance crews. Necessary tools and equipment are rolled right to the job, eliminating the need for time-consuming repeat trips to the tool crib. The work top has a masonite surface which rests on a reinforced steel base and provides a sturdy support for vises, bench grinders, etc., as well as a working surface for all types of bench work.

The sturdy light fixture is bolted to the bench top and is a heavy, rigid standard with a swivel-action heavy aluminum spot reflector . . . electric wiring is carried in flexible armor cable and plugs into an outlet at the rear of the bench.

A double outlet for light, power tools, etc., is located at both ends of the bench, providing four possible connections at one time. No lead-in to the bench is provided, but there is an electrical inlet at the rear for a main line connection.

The seven drawers, shelves, and bottom compartment provide a great amount of storage space for methodical segregation of tools, etc., and the twenty small bins at the rear can be used for a variety of small parts. The front and rear doors and the lock-bar which locks all seven drawers have tumbler type locks—all three locks work with the same key. Multiple "Non-Spill" slide runs carry the drawers easily without binding, sagging, or pulling out and spilling.

Two eight inch diameter, fixed position rubber covered wheels and two five inch swivel type rubber wheels provide easy mobility. Once rolled into the work area, two powerful jack-type bench brakes lock the roll cab to the floor to assure a safe, steady work top.

Specifications

Overall Dimension: 45" long, 24" wide, 30" base to work top, 36½" floor to work top

Drawers:
- **Three top drawers:** 15⅞"x7⅞"x1½" high.
- **Top big drawer:** 25¾"x17⅞"x1⅞" high.
- **Two center drawers:** 25¾"x17⅞"x3⅞" high.
- **Bottom drawer:** 25¾"x17⅞"x4⅞" high.

Bottom Compartment: 44¾"x23¾"x8⅜" high.
Side Compartment: 23¾"x12"x27½" high.
Back Cabinet: has 20 small part bins.
Electrical Outlets: Two at each end and one at rear of cab.
Light Fixture: Swivel head accommodates standard or reflector type bulb—bulb not included.
Electrical Inlet: At rear for line connection.
Wheels: Fixed wheels 8" diameter—swivel wheels 5" diameter.
Brakes: Two jack-type bench brakes.
Finish: Baked-on red enamel.
Weight: Net 388 lbs., shipping 510 lbs.

Snap-on MECHANIKITS

• Made of heavy gauge steel for strength •

Spot-welded for rigidity

LARGE SIZE

KR-25 Mechanikit. Measures 21¼"x8¾"x7⅛". Tray 20¼"x8"x3¼". Plenty of room to carry all the tools a mechanic will need on the job. Built to give you a large size sturdily constructed tool chest at low cost. Made of heavy gauge steel for strength. Electrically spot welded for lasting rigidity. Three good steel hinges—large leather handle-grip. Two lever-type fasteners and padlock hasp. Partitioned lift-out tray with sturdy carrying handle is included. Red Enamel Finish.

MEDIUM SIZE

KR-24A Mechanikit. Measures 20" x 7¾" x 5½". Tray 19"x7"x2½". Slightly smaller than Mechanikit KR25, but a real box value for the man who requires a smaller tool box. Made of the same heavy weight steel—electrically welded for added strength. Two strong hinges—large carrying handle. Two lever-type snap fasteners and padlock hasp. Large partitioned lift-out tool tray with carrying handle is furnished with the Mechanikit. Red enamel finish. An excellent buy for garage, shop or home.

METAL SLIDE DRAWER

KR-410 Slide Drawer. Solves your problem of extra drawer space. Top has four screw holes and can be fixed to underside of wood benches, tables or cabinets. Two of these units fit the KR-390 Roll-Cab shown on page 101. No-spill slide runs provide easy opening and prevent drawer from falling out when extended. Outside dimensions are 18" front to back, 13¾" wide and 3" high. Heavy gauge spot welded steel—baked-on red enamel finish to match other Snap-on units.

STUD REMOVERS AND RESETTERS—1/4" to 1 1/2" Size Range

THREADED COLLET-TYPE STUD PULLERS

These powerful tools are available in three different series to handle studs ranging from 1/4" to 1 1/2" in diameter. The tapered collets thread on the studs and slip into the housing of the unit. Tightening the bolt on top draws the collet into the housing, locking the puller onto the stud with a slip-proof grip. Because this powerful grip does not damage the threads in any way it is possible to reset a stud and use it over again.

The collets will work on a stud if only two or three threads are exposed or remain on the broken end. Smooth studs or dowels may be threaded with the correct size die and then removed in the usual manner. The standard housing is 1 3/8" diameter and fits any 1 1/8" wrench. The large housing is 2 1/8" diameter and fits a 1 3/4" wrench. The extra large housing is 2 5/8" diameter and fits a 2 1/4" wrench.

STANDARD SIZE PULLER SETS

CG-515-B Complete Set. Contains the CG-500-2 Housing and all 14 collets listed below at left. Has a size range of 1/4" to 5/8". Comes complete in sturdy red enameled metal box KR-150 as illustrated above.

CG-500 Set. Contains the CG-500-2 Housing and the CG-500-8, CG-500-10 and CG-500-12 collets. For use on 3/8"-24, 7/16"-20 and 1/2"-20 threads.

LARGE SIZE PULLER SET

CG-505 Set. Contains the CG-505-1 Housing and the CG-505-2, CG-505-3 and CG-505-4 collets. Handles studs with 3/4"-10, 7/8"-9 and 1"-8 threads.

Standard Puller Parts List

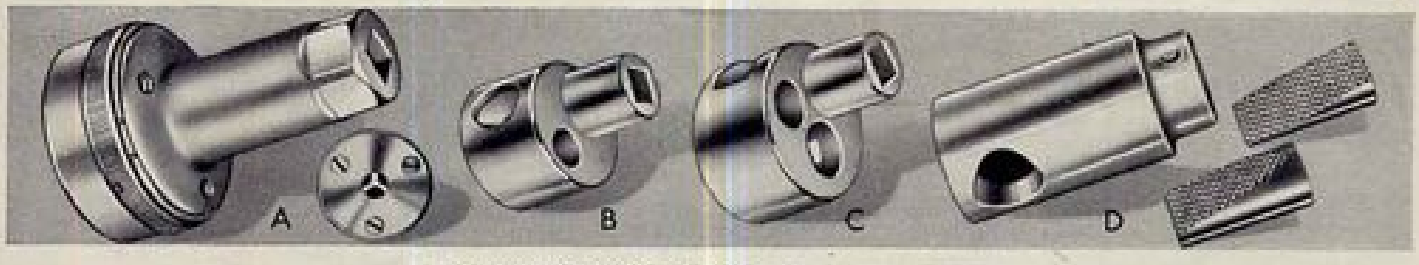
Stock No.	Description	Size	Stock No.	Description	Size
CG-500-2	Housing		CG-500-9	Collet	7/16"-14
CG-500-3	Collet	1/4"-20	CG-500-10	Collet	7/16"-20
CG-500-4	Collet	5/16"-28	CG-500-11	Collet	1/2"-13
CG-500-5	Collet	5/16"-18	CG-500-12	Collet	1/2"-20
CG-500-6	Collet	3/8"-24	CG-500-13	Collet	5/8"-12
CG-500-7	Collet	3/8"-16	CG-500-14	Collet	5/8"-18
CG-500-8	Collet	3/8"-24	CG-500-15	Collet	5/8"-11
			CG-500-16	Collet	5/8"-18

Large Puller Parts List

Stock No.	Description	Size
CG-505-1	Housing	
CG-505-2	Collet	3/4"-10
CG-505-3	Collet	7/8"- 9
CG-505-4	Collet	1" - 8
CG-505-5	Collet	3/4"-16
CG-505-6	Collet	7/8"-14
CG-505-7	Collet	1" -14

Extra-large Puller Parts List

Stock No.	Description	Size
CG-508	Housing	
CG-508-1	Collet	1 1/8"- 7
CG-508-2	Collet	1 1/8"-12
CG-508-3	Collet	1 1/4"- 7
CG-508-4	Collet	1 1/4"-12
CG-508-5	Collet	1 3/8"- 6
CG-508-6	Collet	1 3/8"-12
CG-508-7	Collet	1 1/2"- 6
CG-508-8	Collet	1 1/2"-12



CAM AND WEDGE-TYPE STUD PULLERS

(A) **A-80A Stud Puller.** A new design stud puller with a capacity of 1/4" to 1/2" . . . built in one unit . . . no collets, wedges, or other parts needed. The three jaws shown in small illustration automatically close to stud size and grip when pressure is applied. The harder you pull, the harder they grip . . . BUT they never wedge. Release the pressure and the jaws release ready for another "bite." This feature gives the A-80A a "built in" ratchet action. Pat. No. 2,613,564.

Because the grip is in the exact center, you can pull a 1/2" stud with less than 1" clearance between the stud and surrounding obstructions. Just 1/2" protrusion of the stud is necessary for proper operation and no stud is too long as long studs can run out the opening on top. Can be turned with any 1/2" square drive handle or 1" wrench.

(B) **A-54 Stud Remover.*** 5/16" to 1/2" capacity. Utilizes two "V" shaped racks which grip the stud as the unit is turned by means of any 1/2" square drive handle. Powerful grip releases easily when pressure is relieved. Consists of all parts listed below. *Pat. No. 2,204,852.

A-50 Stud Remover. 7/16" to 1/2" capacity. Same unit as above with A-50-3B rack only.

A-50A Housing only.
A-50B-1 Driving Gear.
A-50-3B Rack 7/16" - 1/2" capacity.
A-50-4B Rack 5/16" - 3/8" capacity.

(C) **A-36 Stud Remover.** 1/2" to 3/4" capacity. A knurled gripping wheel of special alloy steel is used to grip the stud and operates efficiently on both soft or hardened studs. The driving shank extends through both sides of the housing to provide a bearing surface on each side of the wheel and prevent binding. Two openings are provided for efficient operation over the whole size range of the tool. Can be turned with any 1/2" square drive handle. Tool consists of the three parts listed below.

A-36A.....Stud Remover Housing only.
A-36B.....Stud Remover Driving Shank.
A-36C.....Stud Remover Gripping Wheel.

(D) **LA-55 Heavy Duty Stud Puller.** 5/16" to 1" capacity. This puller works on the wedge principle and takes a positive grip which cannot be released except as the operator wishes. The release of the wedge is accomplished by a turn in the reverse direction.

The body of the tool is machined from an alloy steel selected for exceptional toughness and hardening qualities. Two sizes of steel wedges are included with the unit. These wedges are chapmanized to provide a tough core and extremely hard surface and are cross milled to assure a grip on the hardest studs. Use with any 3/4" square drive handle.

Snap-on ELECTRIC IMPACT WRENCH

DELIVERS UP TO 2000 POWERFUL ROTARY BLOWS PER MINUTE—THE MOTOR RUNS CONTINUOUSLY UNDER ALL CONDITIONS AND CANNOT STALL OR BE BURNED OUT BECAUSE OF OVERLOAD

½ Inch Square Drive

YOU GET ALL THESE SUPERIOR FEATURES IN YOUR SNAP-ON ELECTRIC IMPACT WRENCH

A. Entire tool is quickly disassembled with screw driver for lubrication or service.

B. Housing is heavy die cast polished aluminum to give maximum strength and ruggedness.

C. Hammer, anvil, and planetary gear cage are forged from specially selected alloy steels, hardened and tempered through controlled heat treatment.

D. ½" square drive is milled onto the spindle of the forged anvil.

E. Sockets and attachments are held onto the square drive by means of a spring backed friction pin.

F. Gears have induction hardened teeth to give wear resistance and durability for long service life.

G. Grease sealed ball bearings used on the armature eliminate need of periodic lubrication in this part of tool.

H. Powerful fan and large louvres provide ventilation.

I. Rotary impact action is powered by a rugged, powerful motor rated at 3.5 Amps., full load. It runs continuously under any and all conditions . . . cannot be overloaded and stalled or burned out. As soon as the drive spindle torque load builds to a certain point the rotary action is transformed, through the impact mechanism, into 2000 sharp, powerful blows per minute delivered to the anvil end of the drive spindle. Blows become heavier as the torque load increases . . . thus the larger or tighter the nut the heavier the turning impact it receives. None of the hammer shock is transmitted to the operator.

J. Forward and reverse positions are very clearly marked.

K. Twisting the end cap reverses the direction of the tool and automatically shifts position of brushes to give best possible commutator contact for most efficient operation.

L. Reversing switch is simple in design with stationary and movable contacts mounted on non-arcing plastic base, sealed against dirt with a plastic cap. Wiring connections are made without nuts or screws and will not work loose.

M. Spirally coiled beryllium copper springs permit use of long, heavy duty carbon brushes.

N. The oversized 12 Amp. "on-off" trigger switch is built to give long service.

O. Comfortable finger-fit grip handle.

2 MODELS

EW-500. 115 Volt.
EW-502. 220/230 Volt.

P. Heavy molded strain reliever protects cord against shocks and fraying.

Q. 25 Feet of Neoprene sheathed cord greatly reduces need for troublesome extensions. Cord has ground wire with a special quick break connection. A tug hard enough to disconnect the cord from power outlet will also unsnap the ground wire.

Specifications

MOTOR: Universal—AC-DC 25/60 Cycles, Single Phase
VOLTAGES: 115 Volt, 220/230 Volt
AMPERES: Conservative rating 3½ amps.
SPEED: 1900 R.P.M. No Load—Forward or Reverse
IMPACTS: 2000 per minute
LENGTH: 10½ inches overall
DIAMETER: 3-9/16" at widest part of wrench
CLEARANCE: Top of wrench to center of spindle is only 1½". The wrench can be used in very close places.
BALANCE: The length and weight are well balanced on the handle making the wrench easy to use without tiring the arm and hand.
CORD: 25 feet of Heavy Duty Neoprene Sheathed Type S
WEIGHT: Net without cord 6½ lbs., shipping weight with cord 11½ lbs.

PICTURES BELOW SHOW VARIED USES FOR THE SNAP-ON IMPACT WRENCH

SPEEDS NUT TURNING and MANY OTHER JOBS

SNAP-ON IMPACT WRENCH SETS

331-EW-8 Impact Wrench Set. Complete range of socket sizes in standard and bolt clearance types, EW-500 Impact Wrench and other units in KR-25A metal box as listed at right and illustrated above.

315-EW-8 Impact Wrench Set. Contains EW-500 Impact Wrench, tube of lubricant, IP-8 universal joint and the 12 standard industrial hex sockets P-120 to P-340½ listed at right. In KR-25A metal box.

Tools in above sets are described on pages 10-11-12-13 and the box on page 8.

CONTENTS OF 331-EW-8 SET SHOWN ABOVE		INDUSTRIAL HEXAGON SOCKETS			
		Standard		Bolt Clearance	
No.	Description	No.	Size	No.	Size
EW-500	Impact Wrench	P-120	3/8"	SP-120	3/8"
EW-3	Tube of Lubricant	P-140	7/16"	SP-140	7/16"
PSR-16	Stud Remover	P-160	1/2"	SP-160	1/2"
IP-8	Universal Joint	P-180	9/16"	SP-180	9/16"
PS-6	3" Extension Bar	P-200	5/8"	SP-200	5/8"
PSW-284	5/16" Blade Screw Driver	P-220	11/16"	SP-220	11/16"
PSW-325	1/2" Blade Screw Driver	P-240	3/4"	SP-240	3/4"
PSP-32	No. 3 Phillips Screw Driver	P-260	13/16"	SP-260	13/16"
PSP-42	No. 4 Phillips Screw Driver	P-280	7/8"	SP-280	7/8"
KR-25A	Metal Box, 21¼" x 8¾" x 7½". Red enameled finish.	P-300½	15/16"	SP-300½	15/16"
		P-320½	1"	SP-320½	1"
		P-340½	1-1/16"	—	

ACCESSORY TOOLS NOT LISTED ELSEWHERE

IMPACT STUD REMOVER

A PSR-16 Impact Stud Remover. Designed for use with the Snap-on Impact Wrench but it also has a 1" outside hex drive for use with any 1" socket and handle or other wrench. Studs ⅝" to ⅞" diameter can be handled. Housing is 3½" long.

B STANDARD TIP SCREW DRIVERS

Complete Tool			Socket Only	Bit Only	Set Screw
Stock No.	Tip Size	Length	No.	No.	No.
★PSW-284	5/16"	3"	PSW-284-1	★PSW-284-2	SA-12-3
★PSW-325	1/2"	3"	PSW-325-1	★PSW-325-2	SA-12-3

C PHILLIPS BIT SCREW DRIVERS

Complete Tool			Socket Only	Bit Only	Set Screw
Stock No.	Bit Size	Length	No.	No.	No.
★PSP-32	3	21¼"	PSP-32-1	★PSP-32-2	SA-12-3
★PSP-42	4	21¼"	PSP-42-1	★PSP-42-2	SA-12-3

EW-3 Tube of Lubricant. Recommended for your Snap-on Impact Wrench.

D DOUBLE SQUARE INDUSTRIAL SOCKETS

Stock Number	Wrench Size Nominal	Outside Diameter		Overall Length
		Socket End	Handle End	
P-412	3/8"	7/8"	1/2"	1-1/4"
P-414	7/16"	7/8"	1/2"	1-1/4"
P-416	1/2"	7/8"	1/2"	1-1/4"
P-418	9/16"	1-1/16"	5/8"	1-1/4"
P-420	5/8"	1-1/16"	5/8"	1-1/4"
P-422	11/16"	1-1/16"	5/8"	1-1/4"
P-424	3/4"	1-1/16"	5/8"	1-1/4"
P-426	13/16"	1-1/16"	5/8"	1-1/4"
P-428	7/8"	1-1/16"	5/8"	1-1/4"
P-430	15/16"	1-1/16"	5/8"	1-1/4"
P-432	1"	1-1/16"	5/8"	1-1/4"

E HEX SOCKETS FOR SELF-TAPPING SCREWS

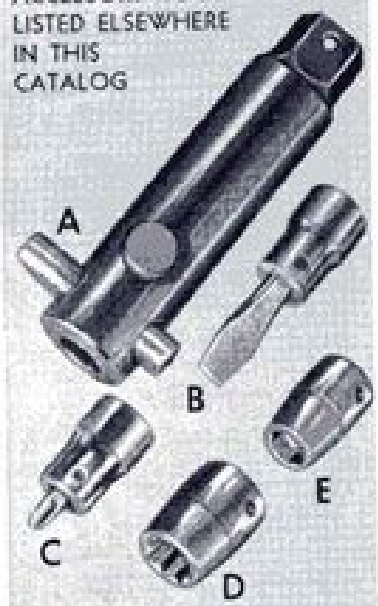
Stock Number	Wrench Size Nominal	Outside Diameter		Overall Length
		Socket End	Handle End	
PK-120	3/8"	7/8"	1/2"	1-1/4"
PK-140	7/16"	7/8"	1/2"	1-1/4"
PK-160	1/2"	7/8"	1/2"	1-1/4"
PK-180	9/16"	7/8"	1/2"	1-1/4"

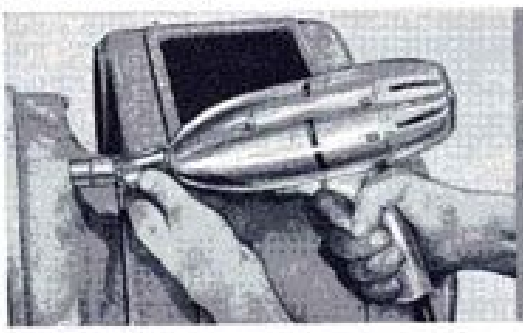
ACCESSORY TOOLS LISTED ON OTHER PAGES

PS-2	2" Ext. Bar	Page 12	SA-12	⅜" Hex Head Wr.	Page 29
PS-6	3" Ext. Bar	Page 12	SA-16	½" Hex Head Wr.	Page 29
PS-12	10" Ext. Bar	Page 12	SA-18	9/16" Hex Head Wr.	Page 29
IP-8	Universal Joint	Page 12			

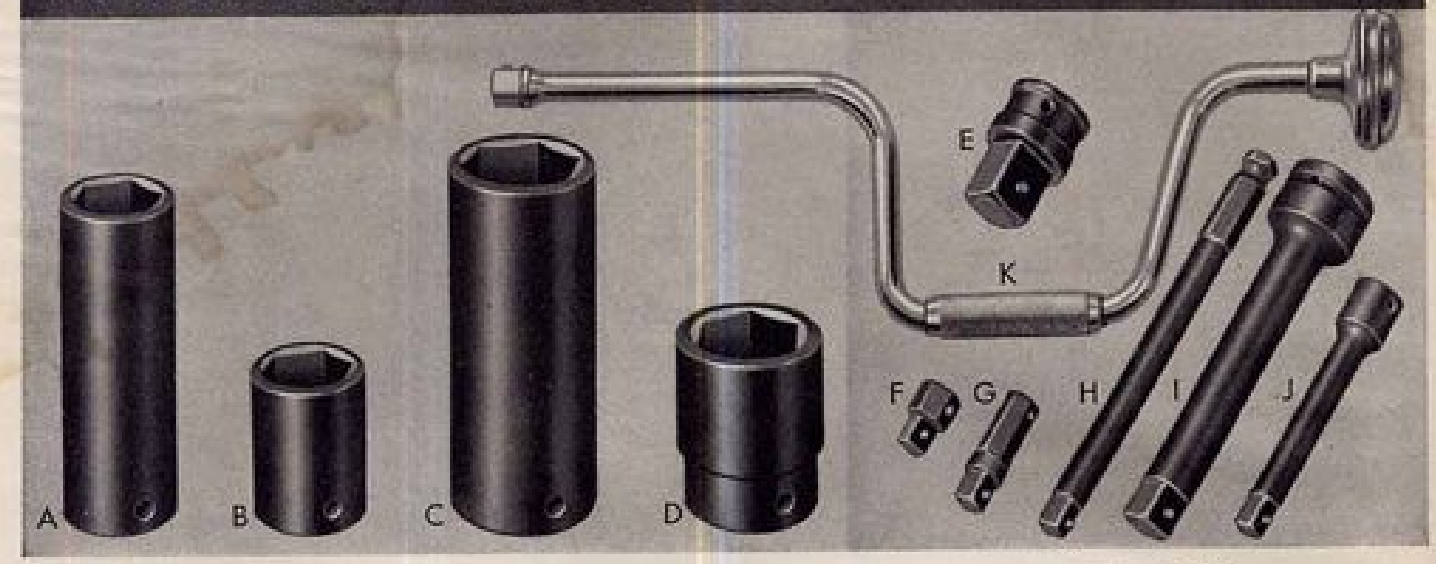
Can also be used with gear pullers (pages 92 to 99) and King Pin Press (page 99).

IMPACT WRENCH ACCESSORY TOOLS NOT LISTED ELSEWHERE IN THIS CATALOG





INDUSTRIAL WRENCHES ..... for use on



MASTER SERIES
(1/2" Square Drive)
Single Broached Hexagon Sockets

Wrench Size	Outside Diameter: Socket End	Outside Diameter: Handle End	A BOLT CLEARANCE TYPE: Stock No.	A: Overall Length	B STANDARD TYPE: Stock No.	B: Overall Length
3/8"	5/8"	5/8"	SP-120	3 1/4"	P-120	1 1/2"
7/16"	25/32"	5/8"	SP-140	3 1/4"	P-140	1 1/2"
1/2"	7/8"	15/16"	SP-160	3 1/4"	P-160	1 1/2"
9/16"	7/8"	15/16"	SP-180	3 1/4"	P-180	1 1/2"
19/32"	29/32"	1"	.....	....	P-190	1 1/2"
5/8"	31/32"	1"	SP-200	3 1/4"	P-200	1 1/2"
11/16"	1 1/16"	1 1/16"	SP-220	3 1/4"	P-220	1 1/2"
3/4"	1 1/8"	1 1/8"	SP-240	3 1/4"	P-240	1 1/2"
25/32"	1 3/16"	1 3/16"	.....	....	P-250	1 1/2"
13/16"	1 1/8"	1 1/8"	SP-260	3 1/4"	P-260	1 1/2"
7/8"	1 5/16"	1 5/16"	SP-280	3 1/2"	P-280	1 1/2"
15/16"	1 3/8"	1 3/8"	SP-300-1/2	3 1/2"	P-300-1/2	1 3/4"
1"	1 7/16"	1 7/16"	SP-320-1/2	3 1/2"	P-320-1/2	1 3/4"
1 1/16"	1 9/16"	1 9/16"	.....	....	P-340-1/2	2"

J EXTENSION BARS

Stock No.	Square Drive	Overall Length
PS-2	1/2"	2"
PS-6	1/2"	6"
PS-12	1/2"	12"
PHD-6	1/2"	6 1/2"
PHD-12	1/2"	12 1/2"
18S	1 1/2"	18"
28S	1 1/2"	28"

I EXTENSION BARS
Impact Type

Stock No.	Square Drive	Overall Length
*IM-62	3/4"	7"
*IM-92	3/4"	10"
*IM-122	3/4"	13"
IM-63	1"	7"
IM-93	1"	10"
IM-123	1"	13"

*Available on special order only.

E ADAPTORS

Stock No.	Square Hole	Square Drive
PHD-1	1/2"	1/2"
PHD-2	1/2"	1/2"
LA-32	3/8"	1/2"
IM-38	3/8"	3/4"
IM-52	1/2"	3/4"
IM-32	3/8"	1/2"
IM-134	1"	3/4"

H HEXAGON SHANKS

Stock No.	Square Drive	Size Hex End	Overall Length
A-3011	1/2"	3/8"	2 1/2"
A-3012	1/2"	3/8"	8"
A-3013	1/2"	3/8"	5"
A-3014	1/2"	3/8"	12"
A-3018	1/2"	3/8"	1 1/2"
A-3021	1/2"	3/8"	2 1/2"
A-3022	1/2"	3/8"	8"
A-3023	1/2"	3/8"	5"
A-3024	1/2"	3/8"	12"
A-3041	3/4"	1/2"	3 1/2"
A-3042	3/4"	1/2"	5"

G POWER SHANK

Stock No.	Square Drive	Shank Size	Overall Length
A-3026	1/2"	1/2" Hex.	3 1/2"

F POWER ADAPTORS

Stock No.	Square Drive	Hexagon: Size	Hexagon: Length	Overall Length
A-3071	3/8"	3/8"	3/4"	1 1/2"
A-3072	1/2"	3/8"	3/4"	1 1/2"
A-3073	3/8"	1/2"	3/4"	1 1/2"
A-3074	1/2"	1/2"	3/4"	1 1/2"
A-3075	3/4"	3/4"	1 1/2"	3 1/2"

HEAVY DUTY SERIES
(5/8" Square Drive)
Single Broached Hexagon Sockets

Wrench Size	Outside Diameter: Socket End	Outside Diameter: Handle End	C BOLT CLEARANCE TYPE: Stock No.	C: Overall Length	D STANDARD TYPE: Stock No.	D: Overall Length
3/8"	15/16"	1 3/16"	SIM-181	3 1/4"	IM-181	1 1/2"
7/16"	1 1/16"	1 3/16"	SIM-201	3 1/4"	IM-201	1 1/2"
1/2"	1 5/16"	1 3/16"	SIM-221	3 1/4"	IM-221	1 1/2"
9/16"	1 3/16"	1 3/16"	SIM-241	3 1/4"	IM-241	1 1/2"
19/32"	1 17/64"	1 3/16"	SIM-261	3 1/4"	IM-261	1 1/2"
5/8"	1 3/8"	1 3/16"	SIM-281	3 1/4"	IM-281	1 5/8"
11/16"	1 7/16"	1 3/16"	SIM-301	3 1/2"	IM-301	1 3/4"
3/4"	1 3/8"	1 3/16"	SIM-321	3 1/2"	IM-321	1 3/4"
13/16"	1 5/8"	1 3/16"	SIM-341	3 1/2"	IM-341	2"
7/8"	1 11/16"	1 3/16"	SIM-361	3 1/2"	IM-361	2"
15/16"	1 3/4"	1 3/16"	SIM-381	3 1/2"	IM-381	2"
1"	1 15/16"	1 3/16"	SIM-401	3 1/2"	IM-401	2"
1 1/16"	1 15/16"	1 3/16"	.....	....	IM-421	2 1/2"
1 1/8"	2"	1 3/16"	.....	....	IM-441	2 1/2"
1 3/16"	2 1/8"	1 3/16"	.....	....	IM-461	2 1/2"
1 1/4"	2 1/8"	1 3/16"	.....	....	IM-481	2 1/2"

K INDUSTRIAL TYPE SPEEDER HANDLES

Stock No.	Square Drive	Shank Length	Overall Length	Sweep
A-3081	3/4"	11 1/2"	14 1/2"	6 1/2"
A-3082	3/4"	16 1/2"	19 1/2"	6 1/2"
A-3083	3/4"	21 1/2"	24 1/2"	6 1/2"
A-3084	3/4"	26 1/2"	29 1/2"	6 1/2"

MAGNETIC SOCKETS FOR SELF TAPPING SCREWS

Powerful Alnico magnet imbedded in the socket holds flat headed self tapping screws securely and makes it easy to insert and install them. Also very useful for starting or removing nuts and bolts in hard to reach places. Eliminates danger of screws or nuts falling into inaccessible places. Single hex openings—black finish.

Stock No.	Sq. Drive	Wrench Size	Overall Length	Stock No.	Sq. Drive	Wrench Size	Overall Length
MGM-6	1/4"	1/4"	1 1/4"	MPKF-102	3/8"	3/8"	2 1/2"
MGM-7	1/4"	1/4"	1 1/4"	MPKF-122	3/8"	3/8"	2 1/2"
MGM-8	1/4"	1/4"	1 1/4"	MPKF-142	3/8"	3/8"	2 1/2"
MGM-9	1/4"	1/4"	1 1/4"	MPKF-162	3/8"	3/8"	2 1/2"
MGM-10	1/4"	3/8"	1 1/4"	MPK-122	3/8"	3/8"	3 1/2"
MGM-11	1/4"	3/8"	1 1/4"	MPK-142	3/8"	3/8"	3 1/2"
MGM-12	1/4"	3/8"	1 1/4"	MPK-162	3/8"	3/8"	3 1/2"
MGM-14	1/4"	3/8"	1 1/4"	MPK-182	3/8"	3/8"	3 1/2"
MGM-16	1/4"	3/8"	1 1/4"				

Power Nut Runners and Impact Wrenches

HEAVY DUTY SERIES INDUSTRIAL SOCKETS

¾" Square Drive—Single Hexagon Broached

Wrench Size	Diameter		(A) DEEP SERIES		(B) STANDARD SERIES	
	Socket End	Handle End	Stock No.	Overall Length	Stock No.	Overall Length
¾"	1"	1⅝"	SIM-182	3⅛"	IM-182	1⅞"
⅞"	1 1/32"	1⅝"	SIM-202	3⅛"	IM-202	1¾"
15/16"	1 3/32"	1⅝"	SIM-222	3¼"	IM-222	1¾"
1"	1 1/16"	1⅝"	SIM-242	3¼"	IM-242	1⅞"
1 1/16"	1¼"	1⅝"	SIM-262	3¼"	IM-262	1⅞"
1⅛"	1⅜"	1⅝"	SIM-282	3¼"	IM-282	1⅞"
1 3/16"	1⅜"	1⅝"	SIM-302	3¼"	IM-302	1⅞"
1¼"	1⅜"	1⅝"	SIM-322	3¼"	IM-322	2"
1 5/16"	1 11/16"	1⅝"	SIM-342	3¼"	IM-342	2"
1⅜"	1¾"	1⅝"	SIM-362	3½"	IM-362	2⅛"
1 7/16"	2"	1¾"	SIM-402	3½"	IM-402	2⅛"
1½"	2 1/16"	1¾"	SIM-422	3½"	IM-422	2⅛"
1 9/16"	2⅛"	1¾"	SIM-442	3½"	IM-442	2⅛"
1⅝"	2¼"	1¾"	SIM-462	3½"	IM-462	2⅛"
1 11/16"	2 3/16"	1¾"	SIM-482	3½"	IM-482	2⅛"

UNIVERSAL JOINTS

For Use on Impact Wrenches

Stock No.	Square Drive	Outside Diam.	Overall Length
(C) IP-8	½"	1 5/16"	2⅝"
(D) IMH-81	⅝"	1⅜"	3 1/16"
(D) IMH-82A	¾"	1¾"	3¾"
(D) IMH-83A	1"	2⅛"	4 9/16"
(D) IMH-85	1½"	3¼"	5 15/16"

(F) SYNTHETIC RUBBER LOCKING RINGS

IM-182R Locking Ring for ¾" square drive sockets
IM-243R Locking Ring for 1" square drive sockets up to and including SIM-463 and IM-963
IM-483R Locking Ring for 1" square drive sockets SIM-483 and IM-483 and larger
IM-445R Locking Ring for 1½" square drive sockets

(G) LOCKING PINS

IM-182P Locking Pin for ¾" square drive sockets
IM-243P Locking Pin for 1" square drive sockets up to and including SIM-463 and IM-963
IM-483P Locking Pin for 1" square drive sockets SIM-483 and IM-483 and larger
IM-445P Locking Pin for 1½" square drive sockets

JUMBO INDUSTRIAL SOCKETS

(1½" Square Drive)

See listing on page 21 of this catalog

EXTRA HEAVY DUTY INDUSTRIAL SOCKETS

(1" Square Drive)—Single Hexagon

(E) STANDARD LENGTH SERIES

Wrench Size	Stock No.	Nose O.D.	Overall Length	Wrench Size	Stock No.	Nose O.D.	Overall Length
¾"	IM-243	1 5/16"	2⅜"	2 1/16"	IM-663	3"	3¼"
15/16"	IM-263	1½"	2⅜"	2⅛"	IM-683	3¼"	3¼"
⅞"	IM-283	1 11/32"	2⅜"	2⅛"	IM-703	3¼"	3½"
1 1/16"	IM-303	1 13/32"	2⅜"	2¼"	IM-723	3¼"	3½"
1"	IM-323	1 15/16"	2⅜"	2⅜"	IM-743	3⅜"	3½"
1⅛"	IM-343	1¾"	2⅜"	2⅜"	IM-763	3½"	3⅝"
1 3/16"	IM-363	1 15/16"	2⅜"	2¼"	IM-783	3½"	3⅝"
1¼"	IM-383	1⅞"	2⅜"	2½"	IM-803	3⅝"	3⅝"
1 5/16"	IM-403	2"	2½"	2⅝"	IM-823	3¾"	3¾"
1⅜"	IM-423	2 1/16"	2½"	2⅝"	IM-843	3¾"	3¾"
1 7/16"	IM-443	2⅛"	2½"	2 11/16"	IM-863	3⅞"	3⅞"
1½"	IM-463	2¼"	2⅝"	2¾"	IM-883	3⅞"	3⅞"
1 9/16"	IM-483	2⅜"	2⅝"	2 15/16"	IM-903	4"	4"
1⅝"	IM-503	2⅜"	2¾"	2⅞"	IM-923	4"	4"
1 11/16"	IM-523	2½"	2¾"	2 15/16"	IM-943	4⅛"	4¼"
1¾"	IM-543	2 9/16"	2⅞"	3"	IM-963	4⅛"	4⅛"
1 13/16"	IM-563	2⅝"	2⅞"	3⅛"	IM-1003	4⅛"	4⅛"
1⅞"	IM-583	2¾"	3"	3¼"	IM-1043	4½"	4⅝"
1 15/16"	IM-603	2¾"	3"	3½"	IM-1123	4¾"	4⅞"
2"	IM-623	2⅞"	3"	3⅝"	IM-1163	5"	4⅞"
	IM-643	3"	3¼"	----	-------	----	----

EXTRA DEEP SERIES—Not Illustrated

Wrench Size	Stock No.	Nose O.D.	Overall Length	Wrench Size	Stock No.	Nose O.D.	Overall Length
¾"	SIM-283	1 17/32"	3"	1 11/16"	SIM-543	2 9/16"	3⅝"
15/16"	SIM-303	1 19/32"	3"	1¾"	SIM-563	2⅝"	3⅝"
1"	SIM-323	1 15/16"	3"	1 13/16"	SIM-583	2¾"	3⅞"
1⅛"	SIM-343	1¾"	3"	1⅞"	SIM-603	2¾"	3⅞"
1 3/16"	SIM-363	1 15/16"	3"	1 15/16"	SIM-623	2⅞"	4"
1¼"	SIM-383	1⅞"	3"	2"	SIM-643	3"	4⅛"
1 5/16"	SIM-403	2"	3¼"	2⅛"	SIM-663	3"	4⅛"
1⅜"	SIM-423	2 1/16"	3¼"	2⅛"	SIM-683	3⅛"	4⅛"
1 7/16"	SIM-443	2⅛"	3¼"	2 1/16"	SIM-703	3¼"	4⅜"
1½"	SIM-463	2¼"	3¼"	2¼"	SIM-723	3¼"	4⅜"
1 9/16"	SIM-483	2⅜"	3½"	2 5/16"	SIM-743	3⅜"	4⅜"
1⅝"	SIM-503	2⅜"	3½"	2⅜"	SIM-763	3½"	4⅜"
1 11/16"	SIM-523	2½"	3⅝"	----	-------	----	----

SPECIAL NOTICE

We cannot show our complete line of industrial type wrenches and attachments in this catalog. Industrial users are invited to write for a copy of Snap-on's Industrial Catalog No. 32-IR.
Note: The industrial tools listed on these two pages are not guaranteed against breakage or wear but are guaranteed against defects in material or workmanship.

WHY THE *Snap-on* TORQOMETER IS THE ®

Accurate
Dependable
Sturdy

BACKED BY THIS GUARANTEE

Snap-on Torqometers are thoroughly tested and inspected before leaving the factory and warranted to be in perfect working condition . . . we will repair or replace free of charge any parts that prove defective within 90 days from date of delivery, or repair at nominal service charge any part which (in our judgment) has been misused or damaged, providing no other repair work has been performed by others.

Patented Nos. 2,312,104; 2,314,022; 2-313,-380; 2,367,224; 2,374,217 and other patents pending. Also patented in foreign countries.

THESE SUPER FEATURES MAKE IT AMERICA'S FINEST

Even veteran mechanics cannot be expected to guess correct bolt tension . . . or estimate even close to uniform accuracy where a series of bolts must be tightened. But with a Snap-on Torqometer the most inexperienced worker can hit the specified bolt torque every time . . . right to the correct inch or foot pound . . . and do it swiftly and confidently. He sees the applied torque as the bolt is tightened.

For accurate servicing where perfect results are imperative, there is no substitute for a Snap-on Torqometer for uniform tightening of threaded parts. The use of torque measuring wrenches is industry wide and Snap-on Torqometers have solved mechanical distortion problems in hundreds of plants.

- **LIGHT WEIGHT**—Well-balanced streamlined design for ease of operation.
- **TORQUE MEASURING PRINCIPLE**—Snap-on Torqometers determine bolt tension by measuring the amount of twist (torque) developed in a specially heat treated alloy steel plug within the instrument as bolt turning pressure is applied.
- **FRICTION-FREE OPERATION**—Floating connecting beam between torque plug and dial mechanism has no bearing points and consequently no friction drag. This floating beam construction together with the watch-like precision of the dial mechanism renders the Torqometer practically "friction-free."
- **EXTREME SENSITIVENESS** — The applied torque is amplified approximately 500 times on the dial for hairline accuracy in torque measurement.
- **SHOCK-PROOF DIAL MECHANISM**—With indicating hand that may be pre-set to any desired position on the clear view dial located at the handle end.
- **FOR RIGHT, AND LEFT HAND THREADS**—Dial pointer works both ways on the dial.
- **WHITE CALIBRATIONS**—Against a black dial background make the Torqometer easy to read—the same as the instrument panel on an airplane.
- **BUILT-IN SAFETY FACTORS**—Constructed to withstand an overload beyond dial capacity of each model far greater than the average mechanic is apt to apply. A slip clutch protects pointer mechanism.
- **CONSISTENT READINGS**—The accuracy of the Torqometer is not affected by the way it is held. Pull on the end of the handle or close to the dial and the reading remains the same. This is not true of all tension wrenches.
- **WIDE RANGE OF SIZES**—With capacities from 0 to 15 inch pounds upwards to 4,000 foot pounds. This range allows for use in any phase of assembly or maintenance service.
- **FLASHLIGHT MODELS**—For use in dark and hard-to-get-at locations.
- **GUARANTEE**—Torqometers are guaranteed for 90 days after delivery from defects resulting from manufacture. After that time, speedy factory service will permit replacement of damaged parts at a minimum cost.

TORQOMETERS WITH METRIC DIAL CALIBRATIONS

Type	Standard Models	Flash Models	Square Drive	Capacity	Depth	Width	Length	Length with handle
A	TQM-3	—	6.35 Mm.	0- 35 C. Kgs.	29 Mm.	38 Mm.	229 Mm.	—
B	TQM-12	TQM-12L	9.52 Mm.	0-180 C. Kgs.	30 Mm.	41 Mm.	336 Mm.	—
B	TQM-50	TQM-50L	9.52 Mm.	0- 7 M. Kgs.	30 Mm.	41 Mm.	336 Mm.	—
B	TQM-51	—	12.70 Mm.	0- 7 M. Kgs.	30 Mm.	41 Mm.	336 Mm.	—
C	TQM-150	TQM-150L	12.70 Mm.	0- 20 M. Kgs.	50 Mm.	44 Mm.	419 Mm.	—
D	TQM-250	—	12.70 Mm.	0- 35 M. Kgs.	41 Mm.	51 Mm.	610 Mm.	—
E	TQM-552	—	19.05 Mm.	0- 50 M. Kgs.	41 Mm.	57 Mm.	630 Mm.	813 Mm.
E	TQM-602	TQM-602L	19.05 Mm.	0- 80 M. Kgs.	41 Mm.	57 Mm.	630 Mm.	1066 Mm.
F	—	TQM-1002L	25.4 Mm.	0-140 M. Kgs.	51 Mm.	73 Mm.	640 Mm.	1536 Mm.
F	—	TQM-2002L	25.4 Mm.	0-280 M. Kgs.	54 Mm.	88 Mm.	673 Mm.	2007 Mm.

BOX FOR TQ-150 TORQOMETER

KR-130A Metal Box. Give your Torqometer the protection a precision wrench of its nature deserves. This sturdy metal box is made expressly for the TQ-150 and has additional space for the 67-B Ratchet Adapter (page 28) as well as all the special cylinder head wrenches (page 83). Made of heavy gauge steel, spot welded and finished in baked-on red enamel. Overall length 17⅝", width 6⅛", height 3½".

FINEST TOOL FOR ACCURATE BOLT TENSION

SNAP-ON BUILDS THE RIGHT SIZE TORQOMETER FOR EVERY KIND OF JOB

0-15 Inch Pound Model

TQ-1 Torqometer. Type [A]. This tool has a ¼" square drive to fit Midget sockets and attachments (pages 36, 37, 38, 39). Torque capacity of zero to 15 inch pounds. It is 1⅛" deep, 1½" wide and 9" long.

0-30 Inch Pound Model

TQ-3 Torqometer. Type [A]. Has ¼" square drive and a torque capacity zero to 30 inch pounds. 1⅛" deep, 1½" wide, 9" long.

0-75 Inch Pound Model

TQ-6 Torqometer. Type [B]. ⅜" square drive, fits Ferret sockets on pages 33, 34, 35. Zero to 75 inch pounds capacity. 1 1/16" deep, 1⅝" wide and 13¼" long.

0-150 Inch Pound Models

TQ-12A Torqometer. Type [B]. The ⅜" square drive on this tool fits Ferret sockets and attachments (pages 33, 34, 35). Zero to 150 inch pound torque capacity. It is 1 9/16" deep, 1⅝" wide and 13¼" long.

TQ-12AL Torqometer. Same model as above but with flash attachment.

0-600 Inch Pound Models

TQ-50A Torqometer. Type [B]. Fits Ferret ⅜" square drive sockets (pages 33, 34, 35). Popular for automotive and aviation service. Dial calibrated from zero to 600 inch pounds. Tool is 1 9/16" deep, 1⅝" wide and 13¼" long.

TQ-50AL Torqometer. Same as TQ-50A above, but has built-in flash attachment.

TQ-51A Torqometer. Type [B]. This model is the same size and capacity as the TQ-50A above, but is constructed with a ½" square drive for use with Master sockets and attachments (pages 28, 29, 30, 31).

0-50 Foot Pound Model

TQ-50AF Torqometer. Type [B]. Same as TQ-50A above but calibrated 0 to 50 ft. lbs.

0-150 Foot Pound Models

TQ-150 Torqometer. Type [C]. This tool has a ½" square drive and fits Master units (pages 28, 29, 30, 31). Our most popular model for general automotive, aviation and light-tractor service also for light industrial bolt tensioning. It measures 1 9/16" deep, 1¾" wide, 16½" long. Dial calibrated zero to 150 ft. lbs.

TQ-150L Torqometer. Same as the model above but fitted with flash attachment.

0-1800 Inch Pound Model

TQ-151 Torqometer. Same tool as TQ-150 but with dial calibrated zero to 1800 inch pounds.

0-250 Foot Pound Model

TQ-250 Torqometer. Type [D]. ½" square drive fits Master units (pages 28, 29, 30, 31). An all purpose tool for heavy trucks, trailers, buses, small industrial engines, etc. Dial calibrated zero to 250 ft. lbs. 1⅝" deep, 2" wide, 24" long.

0-350 Foot Pound Models

TQ-352A Torqometer. Type [E]. ¾" square drive fits Heavy Duty units (pages 24-25). For trucks, tractors, buses, medium diesels, etc. Dial calibrated zero to 350 ft. lbs. It is 1⅝" deep, 2¼" wide, length with handle 32", without handle 24".

TQ-352AL Torqometer. Same as above model but with flash attachment.

0-600 Foot Pound Models

TQ-602A Torqometer. Type [E]. ¾" square drive to fit Heavy Duty units (pages 24-25). Dial calibrated zero to 600 ft. lbs. For stationary engines and heavy machinery. Tool is 1⅝" deep, 2¼" wide, length with handle 42", without handle 24".

TQ-602AL Torqometer. Same as above model but with flash attachment.

0-1000 Foot Pound Model

TQ-1003AL Torqometer. Type [F]. This powerful tool has a 1" square drive for use with Extra Heavy Duty units (pages 22, 23). Dial is calibrated from zero to 1000 ft. lbs. Flashing light attachment is incorporated in this model. Head is 2" deep, 2⅛" wide, and 25¼" long without handle. With 48" tubular handle attached, length becomes 66½".

0-2000 Foot Pound Models

TQ-2003AL Torqometer. Type [F]. Has 1" square drive to fit Extra Heavy Duty units (pages 22, 23). Large dial and flashing light signal for easy readings. Head is 2¼" deep, 3⅝" wide. Length without handle 26½" long, with 60" handle 79" long.

TQ-2003TL Torqometer. Type [G]. Built with a 1" square drive to fit Extra Heavy Duty units (pages 22, 23). A Heavy Duty 2,000 Foot Pound capacity model offering adaptability, power and accuracy for all big bolt tensioning operations where working space is limited. Ideal for diesel engine maintenance, steam locomotives, turbines, big generators, and other heavy machinery. Equipped with flash signal and 4" diameter adjustable dial. Can be used either as a tee handle tool as shown or with a single handle in either position, whichever is most convenient. The two handles provided are quickly and safely locked on or removed from the unit. The head is 3¼" deep, 4½" wide, overall length with both handles attached is 64".

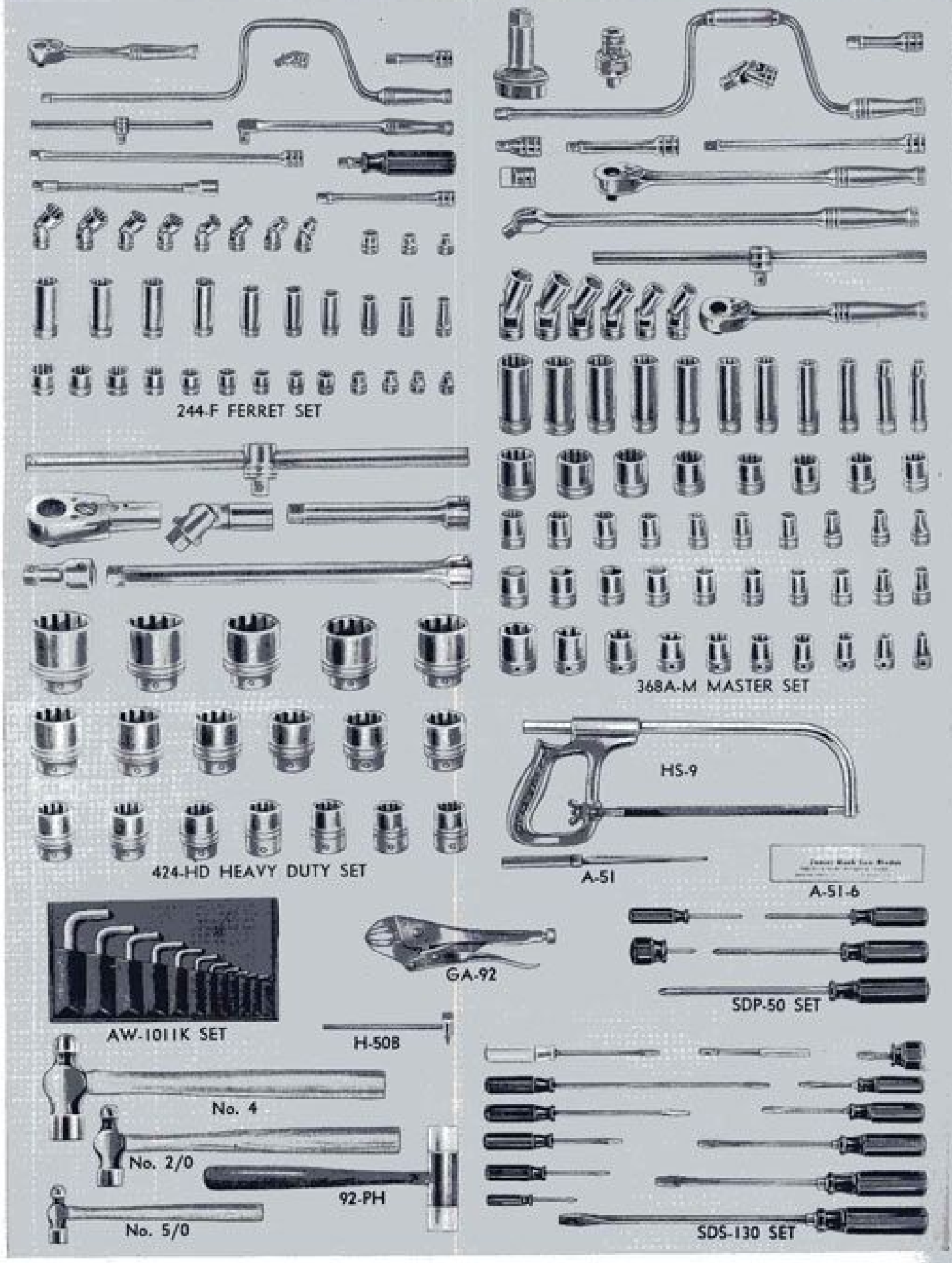
0-3000 Foot Pound Model

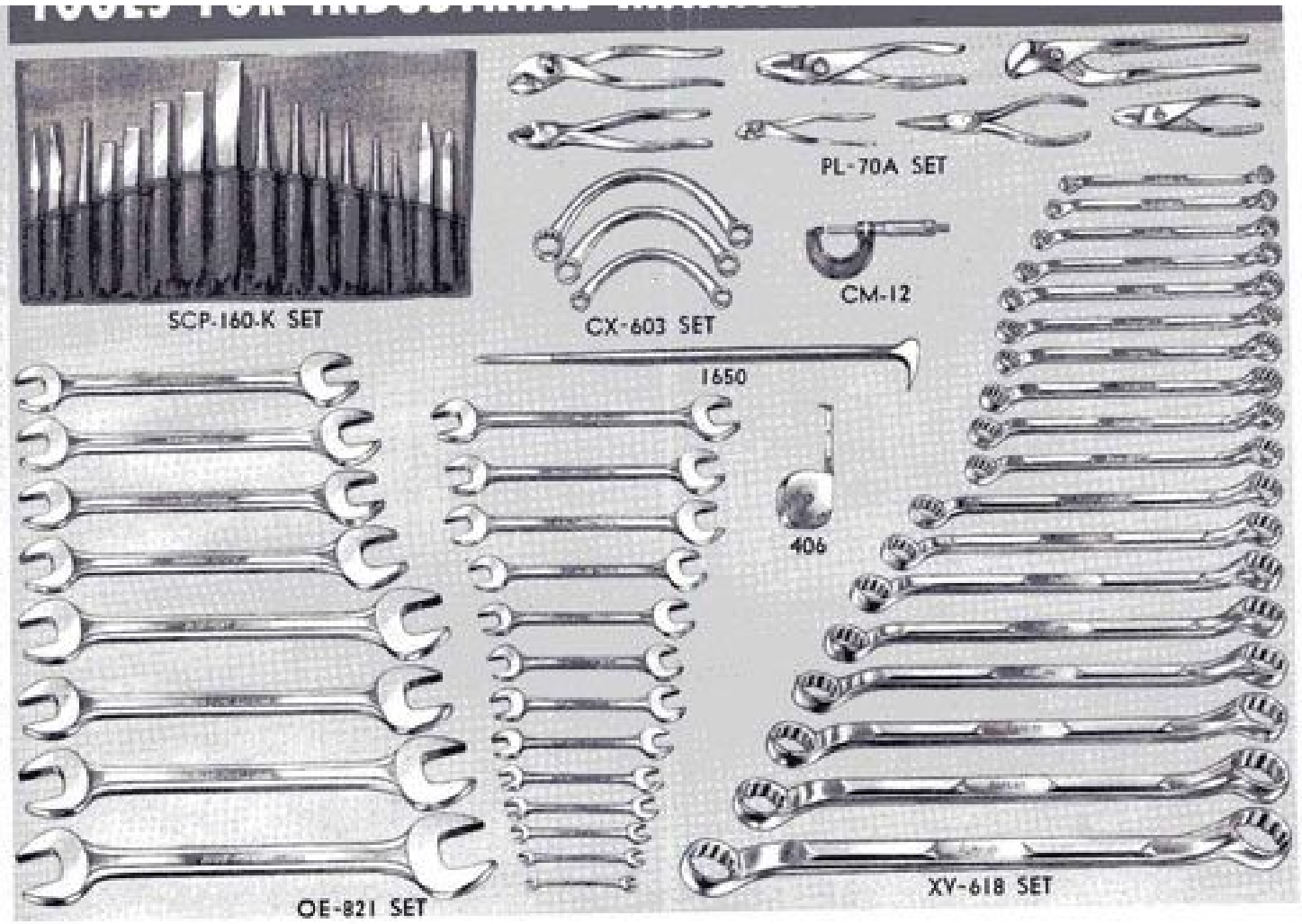
TQ-3005TL Torqometer. Type [G]. Has 1½" square drive. Fits sockets on page 21. Available on special order only.

0-4000 Foot Pound Model

TQ-4005TL Torqometer. Type [G]. Has 1½" square drive. Fits sockets on page 21. Available on special order only.

SET OF 242 Snap-on WRENCHES and





5242-GS INDUSTRIAL SET

The right tool . . . at the right place . . . at the right time—that is one of the biggest factors which can contribute to faster, more accurate machinery maintenance or repair. Here is a selection of wrenches and hand tools which provides every standard wrench size from ⅛" up to 2⅜" and wrench types to suit any given situation. Complete descriptions of the various groups and units comprising this set will be found on the pages listed below.

Suitable Cabinets for This Set

The time saving way to operate is to use carry-chests or roll-cabs which will transport the complete tool equipment from crib to job. It puts all the tools right where they are needed . . . eliminates time wasting "tool trips" and increases the efficiency of maintenance departments. Color illustrations and complete descriptions of Snap-on chests and roll-cabs are found on pages 3 to 8.

KR-61 Chest
Giant size for quick location of tools. A big time saver. Complete story telling its many features on page 3.

KR-361 Combination
Tremendous amount of storage space for the alert mechanic. Fully described and shown in color on page 2.

KR-300B Rolla-Bench
Saves countless hours of a mechanic's time. You'll find it fully described and illustrated in color on page 5.

CONTENTS OF 5242-GS INDUSTRIAL MAINTENANCE SET—PAGES 16-17

Stock No.	Description	Story on Page
204-F	Forest Socket Wrench Set (⅜" sq. drive)	33
3008-M	Master Socket Wrench Set (½" sq. drive)	37
424-HD	Heavy Duty Socket Wrench Set (⅜" sq. drive)	36
OE-821	Open End Wrench Set (⅛" to 1⅝" sizes)	47
XV-618	Boxwrench Set (⅜" to 1⅝" sizes)	42
CX-603	Half Moon Boxwrench Set	45
AW-1011-K	Hex Head Wrench Set (⅛" to ½")	43
SDS-100	Grip-Grip Screw Driver Set (13 Drivers)	50
SDP-50	Phillips Screw Driver Set (5 Drivers)	51
H-50B	Offset Hammer Head Screw Driver	53
SCP-160-K	Chisel & Punch Set (16 tools)	59
1650	Pry Bar and Linkagrip Punch	59
PL-70A	Set of seven Pliers	56
2/0	12 oz. Ball Pein Hammer	57
5/0	4 oz. Ball Pein Hammer	57

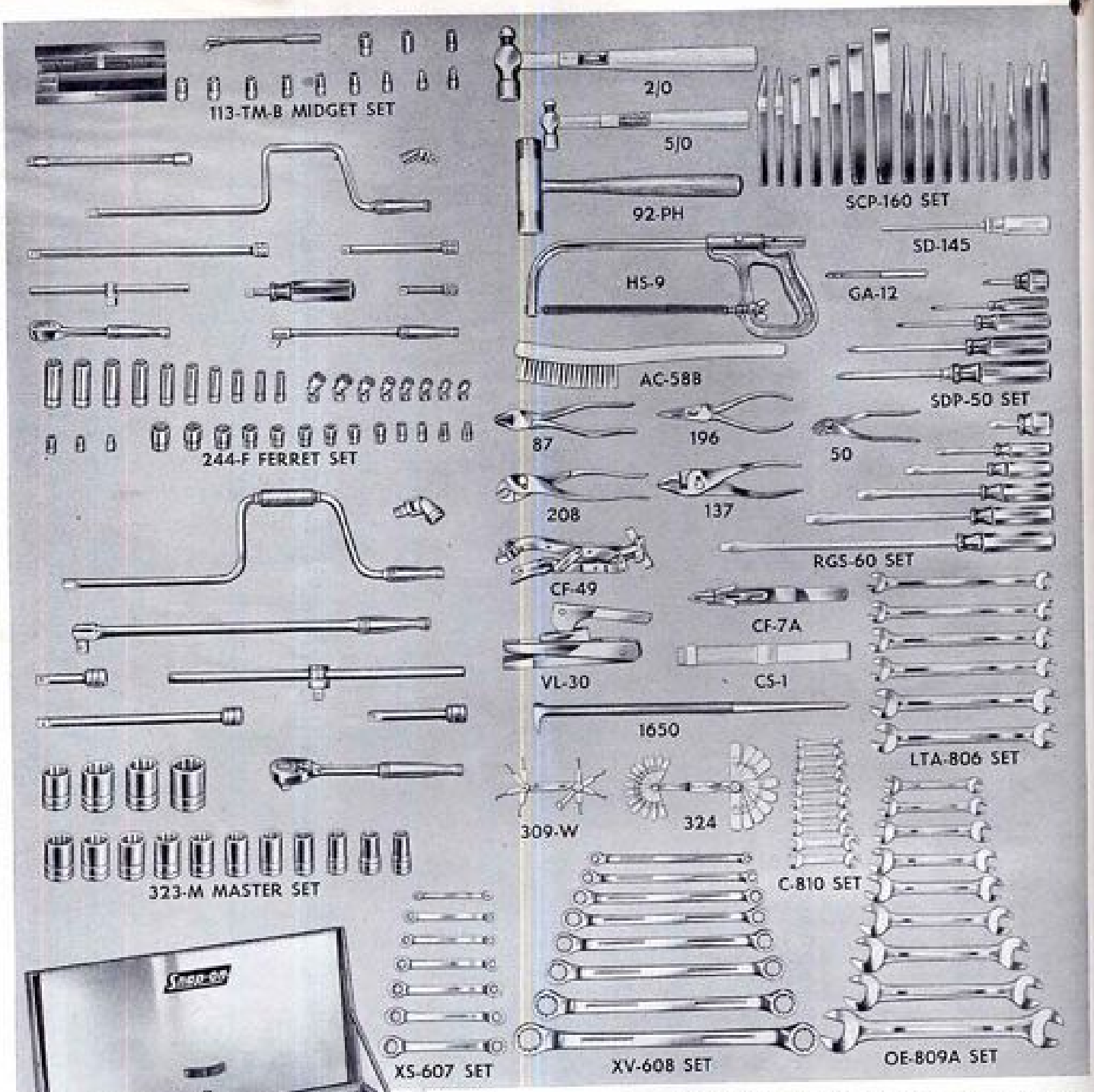
Stock No.	Description	Story on Page
4	2 lb. Ball Pein Hammer	57
92-PH	Plastic Tip Hammer	57
A-51	Junior Hack Saw Frame	64
A-51-6	Package of 12 Blades for A-51	64
HS-9	Standard Hack Saw Frame	64
CM-12	Micrometer (zero to 1" cap)	65
GA-92	10" Vise-Grip Wrench	90
404	Steel Tape Rule (6 ft. length)	65

5242-GS Universal Tool Set. Tools only.

5242-GS-B Set. Complete in KR-61 Super Chest.

5242-GS-BA Set. Complete in KR-361 Super Chest and Roll-Cab Combination.

5242-GS-BB Set. Complete in KR-300B Rolla-Bench.



KR-56 Tool Chest

This Chest and its companion Roll-Cab are described in detail on page six.

5166-GS-B MECHANICS STANDARD SERVICE SET

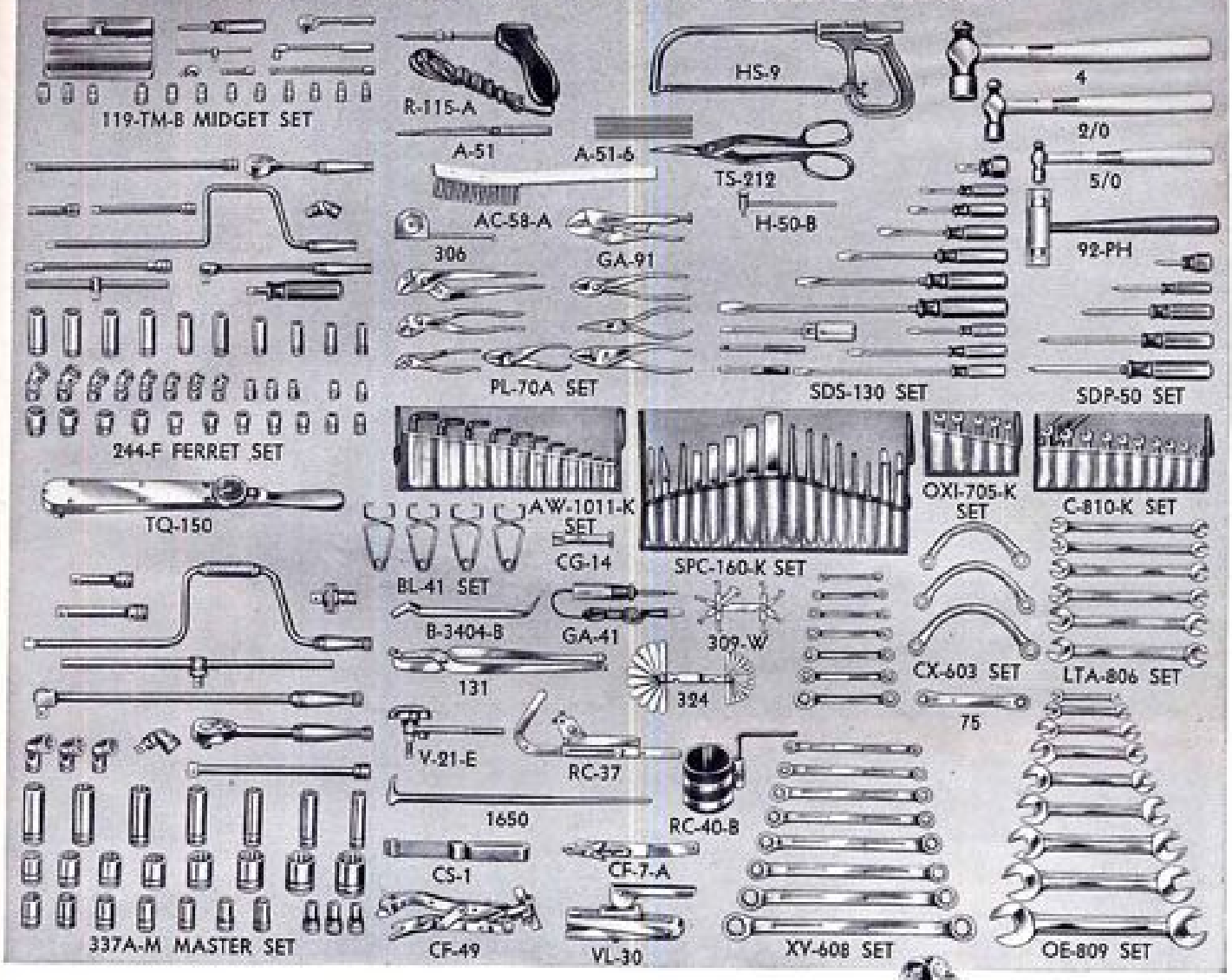
With a carefully planned set like this any mechanic becomes more efficient and more valuable to himself and to the shop. All his mechanical knowledge and skill are useless until he has the tools with which to exercise his ability. These 168 tools are all basic items he needs regularly in service work . . . tools which will help him work faster and bring out all the skill in his hands. Socket sizes range from 5/16" to 1 1/8" in 1/4", 3/8", and 1/2" square drives. Boxockets 5/16" to 1 1/8", open ends 5/32" to 1". Set includes the KR-56 Tool Chest.

5166-GS Set. Same set as above but without the chest.

Stock No.	DESCRIPTION	Story on Page
113-TM-B	Midget Set in Box	36
244-F	Ferret Set	33
323-M	Master Supreme Set	28
XV-608	Boxocket Set	42
XS-607	Dwarf Boxocket Set	43
OE-809A	Open End Wrench Set	46
LTA-806	Tappet Wrench Set	48
C-810	Ignition Wrench Set	49
RGS-60	Screw Driver Set	52
SD-145	Spark Test Screw Dr	53
GA-12	Screw Starter	53
SDP-50	Phillips Screw Driver Set	51
SCP-160	Chisel and Punch Set	59
1650	Pry Bar	59
5/0	Ball Pein Hammer	57
2/0	Ball Pein Hammer	57

Stock No.	DESCRIPTION	Story on Page
92-PH	Plastic Tip Hammer	57
324	Feeler Gauge	57
309-W	Spark Plug Gauge	57
HS-9	Hack Saw Frame	64
CS-1	Carbon Scraper	73
AC-588	Wire Brush	73
CF-49	Valve Lifter	61
CF-7A	Valve Key Replacer	61
VL-30	Valve Spring Compr	61
50	Ignition Pliers	55
137	Gripping Plier	54
196	Needle Nose Plier	55
87	Diagonal Cutter	55
208	Battery Plier	55
KR-56	Metal Tool Chest	6

MECHANICS GENERAL PURPOSE SET



233 TIME SAVING TOOLS FOR THE SERVICE MECHANIC

Wasted hours mean loss of income. Get maximum working efficiency with this mechanic's complete tool kit. Contains most needed tools for general auto repairs. These tools when fitted into your choice of 3 storage cabinets (shown in color on pages 4 and 6) mean every tool at your finger-tips for instant use... save countless hours of lost motion . . . mean extra earnings from time saved.

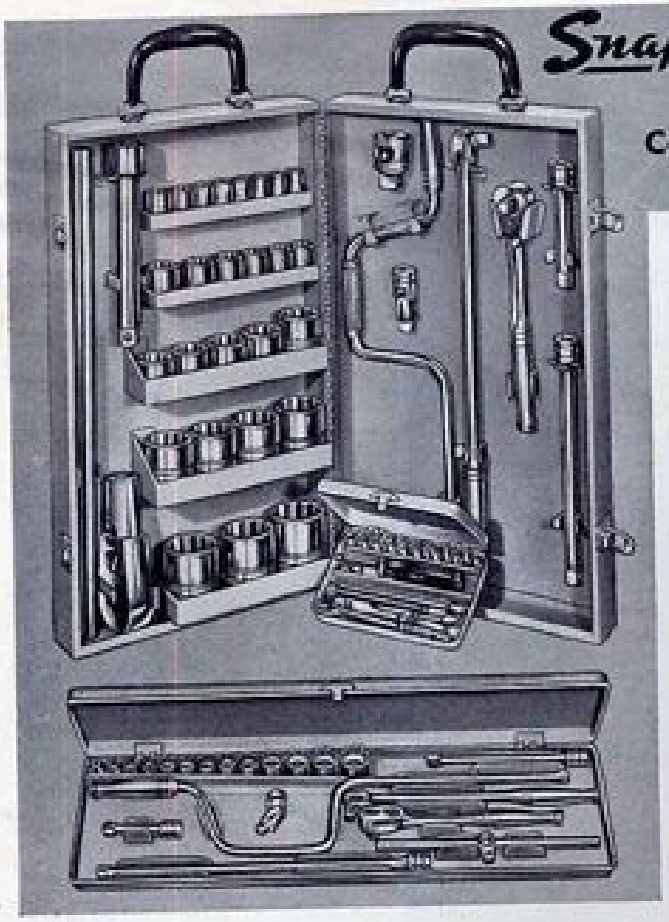
5223-GS **Mechanic's General Purpose Set.** All tools shown above.
5223-GS-B **Set.** All tools above in KR-56 Chest (page 6).
5223-GS-BA **Set.** All tools above in KR-357A Combination (page 6).
5223-GS-BB **Set.** All tools above in KR-377A Coaster Cab (page 4).

Stock No.	Description	Story on Page
119-TM-B	Midget Tool Set	36
244-F	Ferret Tool Set	33
337A-M	Master Tool Set	27
XV-608	Boxsocket Wrench Set	42
XS-607	Dwarf Boxsocket Wrench Set	43
OE-809	Open End Wrench Set	46
CX-603	Half Moon Boxsocket Set	40
75	Ratcheting Boxsocket	40
LTA-806	Tappet Wrench Set	45
OXI-705-K	Midget Combination Wrench Set	45
C-810-K	Spoktion Wrench Set	49
GA-91	Vise-Grip Wrench	90
AW-1011-K	Hex Head Wrench Set	43
SDS-130	Screw Driver Set	50
SDP-50	Phillips Screw Driver Set	51
H-50B	Hammerhead Screw Driver	53
SCP-160K	Chisel and Punch Set	59
1650	Pry Bar	59
PL-70A	Set of Pliers	56
2/0	Ball Pein Hammer	57
5/0	Ball Pein Hammer	57
4	Ball Pein Hammer	57
92-PH	Plastic Tip Hammer	57

Stock No.	Description	Story on Page
324	Feeler Gauge	67
309W	Spark Plug Gauge	57
A-51	Hack Saw Frame	64
A-51-6	12 Blades for A-51	64
HS-9	Hack Saw Frame	64
TQ-150	Torquemeter	15
306	Steel Tape Rule	65
TS-212	Tinner's Snips	103
CF-49	Valve Lifter	61
CF-7A	Valve Key Replacer	61
VL-30	Overhead Valve Spring Compressor	61
V-21E	Valve Adjusting Tool	61
CS-1	Carbon Scraper	73
RC-40B	Piston Ring Compressor	50
RC-37	Ring Groove Cleaner	50
BL-41	Set of 4 Brake Cylinder Clamps	88
B-3404B	Brake Adjusting Tool	88
CG-14	Brake Shoe Spring Compressor	89
131	Brake Spring Pliers	89
GA-41	Electric Tester	84
R-115A	Soldering Iron	80
AC-58B	Wire Brush	73

Snap-on MASTERMECH SET

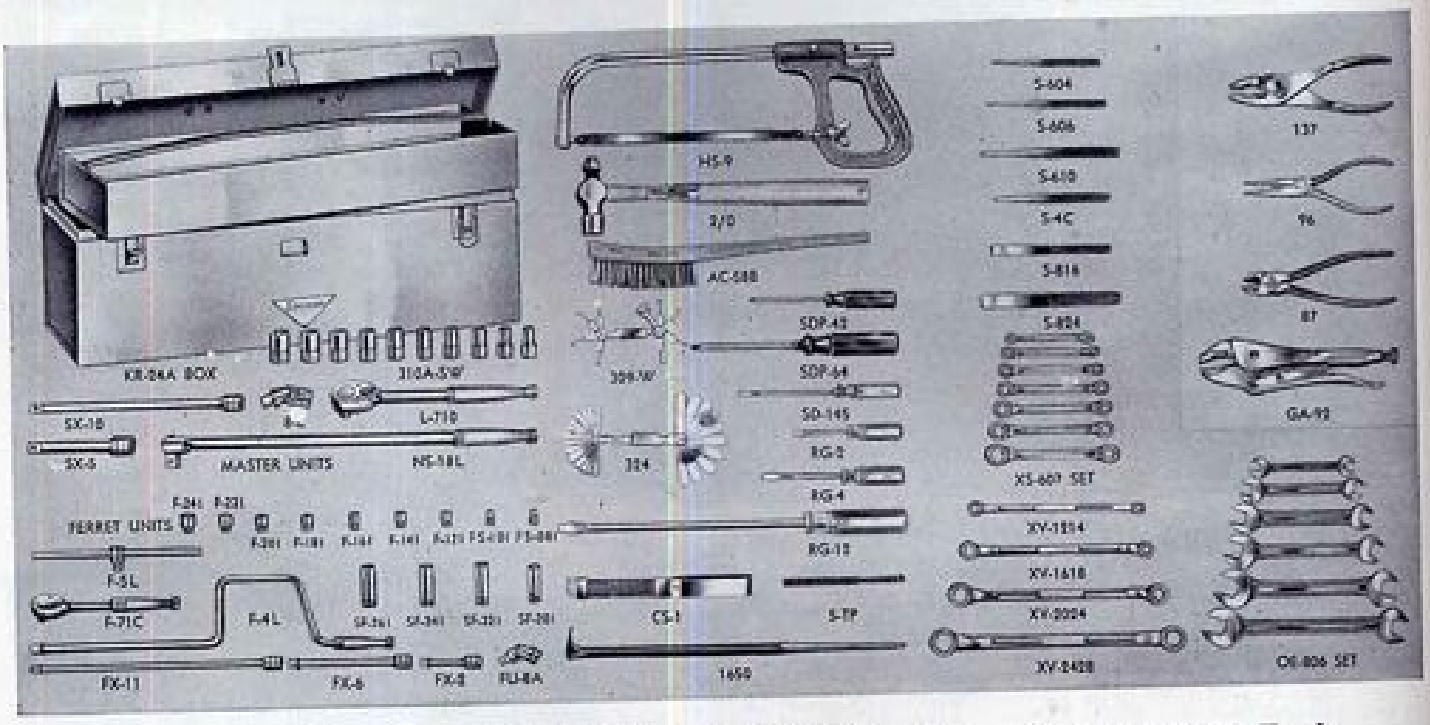
No. 5075A-GS-B
Contains 75 Sockets and Handles in Specially Designed Case



5075A-GS-B MasterMech Set. Here is a set of Snap-on wrenches and a specially designed carrying case that solves a majority of nut and bolt turning problems in all fields of industrial maintenance and product service. 51 sockets range from 3/16" up to 1 3/16" sizes, complemented with a wide selection of the most useful wrench handles, as listed below. Set includes KR-201A Special Metal Cabinet designed expressly for this set. This convenient tool container provides a special place for each tool and makes it available instantly. It folds up flat and takes little storage space and its two leather handles make it easy to carry. Full length piano-type hinge and wrap-over sides provide a rigid and non-warping construction. Baked on red enamel finish. Net weight of cabinet is 11 3/4 lbs.

Above picture shows how the Ferret Set slides into retaining straps on the back of the cabinet.

Stock No.	Description	See Page	Stock No.	Description	See Page
119-TM-B	Midget Set in KR-235 Box	36	L-728H	Sliding Bar	25
221-F-B	Ferret Set in KR-281 Box	33	L-62	Ext. Bar	25
318-SW	Master Socket Set	30	LDH-402	1 1/16" Hex Socket	24
NS-18L	Nut Spinner	29	LDH-427A	1 1/8" Hex Socket	24
K-4L	Nut Speeder	29	LDH-442	1 3/8" Hex Socket	24
L-710	Ratchet	26	LDH-462	1 7/16" Hex Socket	24
UL	Universal Joint	29	LDH-482	1 1/2" Hex Socket	24
SX-10	10" Ext. Bar	29	LDH-522	1 5/8" Hex Socket	24
SX-5	5" Ext. Bar	29	LDH-542	1 11/16" Hex Socket	24
L-72S	Ratchet Head	25	LDH-562	1 3/4" Hex Socket	24
			KR-201A	Tool Cabinet	above



5076-GS-B SNAP-ON MECHANIC'S BASIC TOOL SET — Containing 76 Tools

5076-GS-B Mechanic's Basic Tool Set. In this set we have assembled a well balanced selection of tools especially suitable for the man starting to build up his kit. It provides a basic set to which other units can be added as the need arises. Every tool will find practical use in everyday service operations. Set contains 76 tools as follows, together with KR-24A MechaniKit (page 8).

Ferret Tools (1/2" Square Drive) Nine Hexagon Sockets—1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", and 3/4"—also Four Deep Double Hexagon Sockets—3/8", 11/16", 3/4", & 13/16". Three Extension Bars—3", 6" & 12" long. One Universal Joint, one Speeder, one Sliding Tee Handle and one Ratchet Wrench. (Pages 32-35).

Master Tools (1 1/2" Square Drive) One Ratchet—One 18" Nut Spinner, Two Extension Bars 5" and 10" long. Universal Joint. Ten Double Hexagon Sockets, 7/16", 1/2", 9/16", 19/32", 5/8", 11/16", 3/4", 25/32", 13/16", and 7/8". (Pages 28-30.)

Miscellaneous Tools. Four Double Offset Boxocket Wrenches—3/8" & 7/16", 1/2" & 9/16", 5/8" & 3/4", 3/4" & 7/8"; Seven Dwarf Boxocket Wrenches—1/4" & 5/16", 3/8" & 7/16", 7/16" & 1/2", 1/2" & 9/16", 9/16" & 5/8", 5/8" & 3/4", 11/16" & 13/16", 3/4" & 7/8", 7/8" & 15/16", 15/16" & 1 1/16", 1 1/16" & 1 1/8", Six Open End Wrenches—3/8" & 7/16", 1/2" & 9/16", 11/16" & 3/4", 25/32" & 13/16", 7/8" & 15/16". One 10" Vise Grip Wrench, one 12 oz. Ball Peen Hammer, One Combination Tappet and Ignition Feeler Gauge, One Wire Spark Plug Feeler Gauge, Three Standard Screw Drivers with 2 1/2", 4" and 12" blades, One 6" blade Spark Testing Screw Driver, Two Phillips Type Screw Drivers Nos. 2 and 4 bits, Two Flat Chisels 1/2" and 3/4" edge, Three Pin Punches 1/4", 3/16", 5/32", One 6" Center Punch, One 16" Pry Bar and Lining-up Punch; Three pliers Nose Pliers, One Carbon Scraper, One Hack Saw Frame, Wood Handle Wire Brush and Ignition Point File.

5076-GS Mechanics Basic Set. Same set as above but tools only.

FOR THE HARDEST NUT TURNING JOBS

"JUMBO" WRENCHES

(1½" Square Drive)

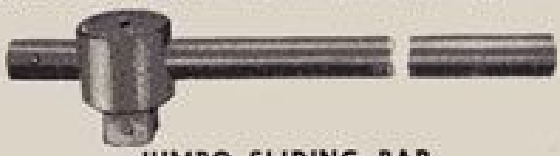
Here's wrench efficiency for your biggest jobs . . . nut-to-nut speed that makes short work of big tie-ups. Here are tools that give the maximum safety factor. Sockets lock securely on the handles and cannot pull off by accident . . . takes only a moment to release them and interchange the units. The high quality of material and workmanship of Snap-on wrenches is beyond comparison, and these, the largest of Snap-on's standard wrenches, are built to out-perform any other similar type of wrench.

JUMBO RATCHET WRENCH

No. 78 Complete Ratchet. Our most powerful ratchet . . . 42 inches of tremendous leverage . . . for toughest nut turning jobs. Every part machined to precision standards. It squeezes into places ordinary large wrenches cannot go . . . it clears most obstructions with room to spare. Conveniently placed lever instantly reverses action. Hardened bearings inserted into the housing minimize normal wear. Every part is made to stand up under the toughest kind of use.

No. 78Y Ratchet Head. Head diameter 4", head thickness 1¾".

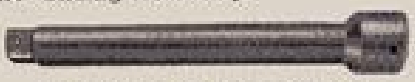
No. 55B Handle. Handle diameter 1⅝", length 36".



JUMBO SLIDING BAR

No. 55 Sliding Bar. Used as an offset handle, this tool gives you thirty-six inches of brute leverage. Power enough to turn any nut up to 4⅝" across the flats no matter how tight it might be. Head depth 2½", handle diameter 1⅝". Includes the bar handle No. 55B listed above.

No. 55A Sliding Head only.



JUMBO EXTENSION BARS

Reach down with an extension bar to get those inaccessible nuts. Converts your sliding bar into a tee handle. Built to take the heaviest work.

No. 105 Extension Bar. 10" long, 1 15/16" shank dia.
No. 205 Extension Bar. 20" long, 1 15/16" shank dia.

Industrial Impact Sockets (1½" Sq. Drive)

Stock No.	Wrench Size	Outside Diameter: Handle End	Outside Diameter: Socket End	Overall Length
IM-525	1 5/16"	3 1/4"	3"	3 3/4"
IM-545	1 11/16"	3 1/4"	3"	3 3/4"
IM-565	1 3/4"	3 1/4"	3"	3 3/4"
IM-585	1 15/16"	3 1/4"	3 1/4"	3 3/4"
IM-605	1 7/8"	3 1/4"	3 1/4"	3 3/4"
IM-625A	1 15/16"	3 1/4"	3 1/4"	3 3/4"
IM-645	2"	3 1/4"	3 1/4"	3 3/4"
IM-685	2 1/16"	3 1/4"	3 1/4"	3 3/4"
IM-705	2 1/8"	3 1/4"	3 1/4"	3 3/4"
IM-725A	2 1/4"	3 1/4"	3 1/4"	3 3/4"
IM-765	2 3/8"	3 1/4"	3 1/4"	3 3/4"
IM-805	2 1/2"	3 1/4"	3 1/4"	4"
IM-825	2 5/8"	3 1/4"	4"	4"
IM-845	2 3/4"	3 1/4"	4 1/4"	4 1/4"
IM-885	2 7/8"	3 1/4"	4 1/4"	4 1/4"
IM-905	2 15/16"	3 1/4"	4 1/4"	4 1/4"
IM-945	3 1/16"	3 1/4"	4 1/4"	4 1/4"
IM-985	3"	3 1/4"	4 1/4"	4 1/4"
IM-1005	3 1/8"	3 1/4"	4 1/4"	4 1/4"
IM-1045	3 1/4"	3 1/4"	5"	4 3/4"
IM-1125	3 1/2"	3 1/4"	5 1/4"	5"
IM-1245	3 7/8"	3 1/4"	5 3/4"	5 1/4"
IM-1485	4 5/8"	3 1/4"	6 1/2"	6"

Redesigned to conform with locking device standards now generally accepted. The design change eliminates the interior lock ring groove and adds an exterior channel to accommodate a rubber lock ring which secures the lock pin used when the sockets are attached to power impact wrenches. Lock rings and pins are not required when used with the handles listed on this page. Sizes in greatest demand are listed here. Additional sizes are listed in our Industrial Catalog 32-IR.

IM-445P Locking Pin.
IM-445R Synthetic Rubber Locking Ring.

EXTRA HEAVY
FOR TOUGH JOBS

SNAP-ON EXTRA HEAVY DUTY LOXOCKET WRENCHES

Trade Mark (lic. Reissue Pat. 19,287)

1" Square Drive

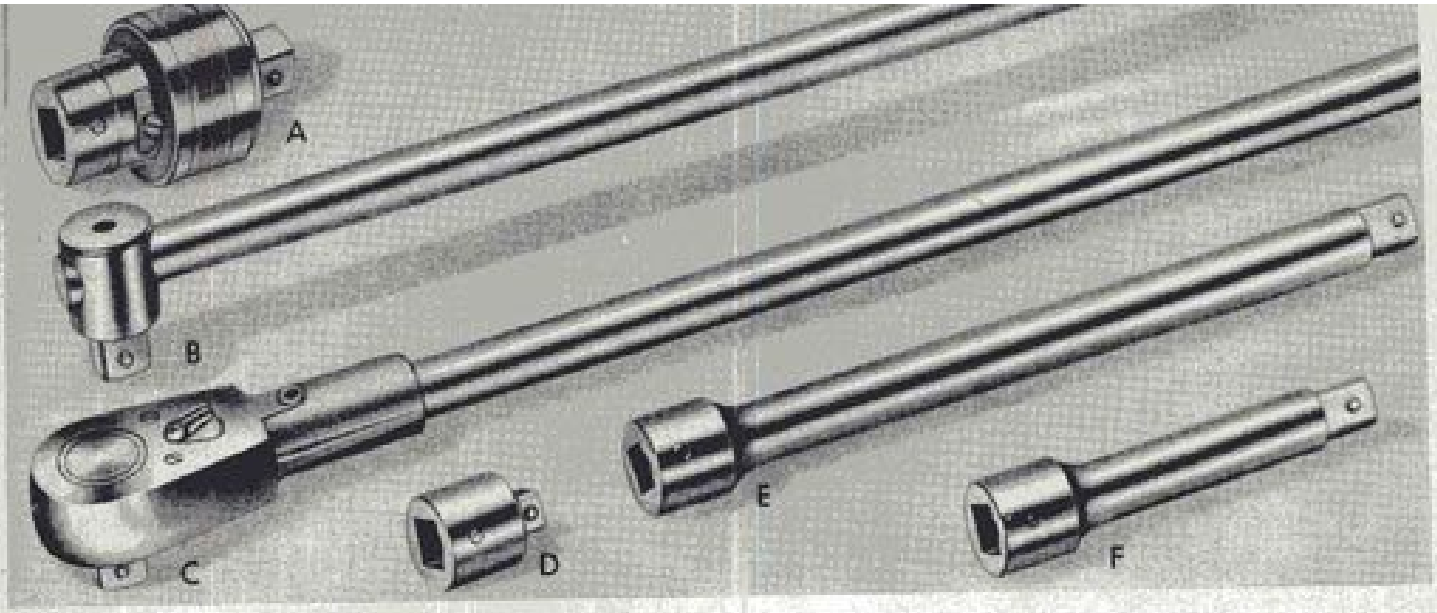
The Loxocket principle makes any combination of these units as safe as a one-piece wrench . . . they lock together securely and will not accidently come apart . . . a convenient release button allows you to interchange sockets swiftly and easily. Here are tools with the compact power of a prize-fighter's fist . . . with tremendous power and leverage to accomplish more work easier and with less fatigue . . . built to break loose those big rusted-on nuts and bolts or to pull them up to the tightest degree. We recommend this equipment for speeding up the heaviest nut-turning work in truck or bus shops—installation and maintenance on marine and mine machinery—all power plants and transmitting machinery—locomotive shops, etc. Take the worry out of breakdowns by using Snap-on wrenches. Pitch into every repair job with confidence that it will be finished at a definite time . . . and in the shortest time. Units are individually machined from finest alloy steel and are carefully heat-treated for maximum strength and greatest durability.

EXTRA HEAVY DUTY HEXAGON LOXOCKETS

Fit companions to the Extra Heavy Duty Handles are the Loxockets that work with them . . . 11 double broached and 6 single broached sockets of precision machined alloy steel, ranging in size from 1 7/16" to 3 1/2". Keep going with these tools that make small work of the big tie-ups—give you adequate wrench performance at all times.

Wrench Size		Stock No.		O.D. Socket End	O.D. Drive End	Overall Length
1 7/16"	Double Broached	LDH-463		2 1/16"	2"	2 5/8"
1 1/2"		LDH-483		2 1/4"	2"	2 3/4"
1 9/16"		LDH-523		2 3/8"	2"	2 7/8"
1 11/16"		LDH-543		2 1/2"	2"	3"
1 3/4"		LDH-563		2 5/8"	2"	3"
1 13/16"		LDH-583		2 11/16"	2 1/2"	3 1/8"
1 7/8"		LDH-603		2 3/4"	2 1/2"	3 1/4"
2"		LDH-643		2 15/16"	2 1/2"	3 5/8"
2 1/8"		LDH-683		3 1/8"	2 3/4"	3 1/2"
2 3/16"		LDH-703		3 1/4"	2 3/4"	3 5/8"
2 1/4"		LDH-723		3 5/16"	2 3/4"	3 3/4"
2 3/8"	Single Broached	L-763		3 1/2"	2 1/4"	3 7/8"
2 1/2"		L-803		3 7/8"	2 3/4"	4 1/2"
2 5/8"		L-843		3 7/8"	2 3/4"	4 1/4"
2 3/4"		L-883		3 3/4"	2 3/4"	4 1/2"
2 15/16"		L-943		4"	2 3/4"	4 7/8"
3 1/4"		L-1003		4 1/4"	2 3/4"	5"

Larger Sizes Available on Special Order.



SNAP-ON EXTRA HEAVY DUTY LOXOCKET HANDLES (1" Square Drive)

A **L-673 Ratchet Adaptor.** (Patent No. 2,020,883.) Here is a new addition to Snap-on's Extra Heavy Duty series that will prove a real time-saver. It converts any combination of handle, extension and socket into a 44 tooth, reverse action ratcheting tool and will make your present set twice as useful. Outside diameter 3¼", overall length 5".

B **L-53 Extra Heavy Duty Sliding Bar.** Thirty full inches of tremendous leverage when this tool is used as an Offset Handle. The head can be used in any position on the bar or as a tee wrench in combination with extension bars. Handle is same as used on L-73 Ratchet.

L-53A Sliding Bar Head only, 3 1/16" deep.

C **L-73 Ratchet and Detachable Handle.** Rugged strength, tremendous leverage, and high speed ratchet action combine to chase away the nightmare of costly delays and shutdowns.
This tool is recommended without hesitation for the toughest kind of work. The detachable hammer forged head and all working parts are accurately machined from special alloy steels, heat treated to give the utmost strength and durability. Hardened bearings in the head provide resistance to wear. Ratchet action requires only a 20° handle movement. Overall length 35".

L-73A Ratchet Head only, 7 13/16" long, 1 7/16" thick

L-53H Handle only, 30" long, 1⅛" dia.

D **Handle and Socket Adaptors.** These two adaptors enable you to interchange your Extra Heavy Duty units with Heavy Duty (¾" square drive) units.

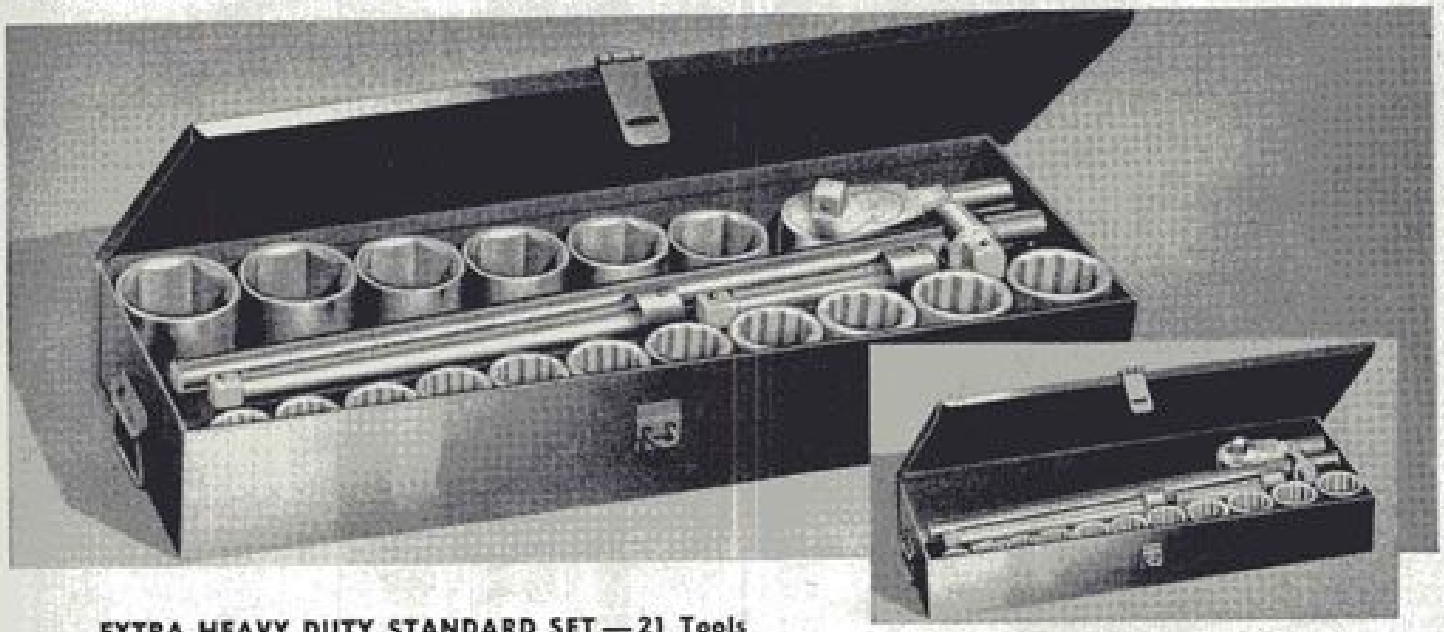
LA-72 Adaptor. Unites ¾" square drive handles with 1" square drive sockets.

LA-124 Adaptor. Unites 1" square drive handles with ¾" square drive sockets.

Extra Heavy Duty Extension Bars. These extensions give you the valuable adaptability of the Ratchet or Sliding Bar to nuts or bolts down in deep holes or crevices where other tools will not reach, or where obstructions interfere.

E **L-123 Extension Bar** 16" long.

F **L-63 Extension Bar** 8" long.



EXTRA HEAVY DUTY STANDARD SET — 21 Tools

521-EHD-B Extra Heavy Duty Standard Set. Includes all 17 Hexagon Loxockets listed on opposite page and provides a wrench range of 1 7/16" up to and including 3⅛". Also L-73A Ratchet Head, Sliding Bar L-53 and two Extension Bars L-63 and L-123. All neatly packed in a sturdy metal box KR-238—made of heavy gauge steel—closely spot welded for durability and strength. Lid is fitted with four butt hinges and a strong padlock hasp. Has heavy carrying handles on each end. Finished in baked-on red enamel. Size 31½" long, 11¾" wide and 5¾" deep.

521-EHD Set. Same set as above but tools only.

E. H. D. Basic Set — 15 Tools

515-EHD-B Extra Heavy Duty Basic Set. Included are 11 powerful Hexagon Loxockets LDH-463, 483, 523, 543, 563, 583, 603, 643, 683, 703, and 723; the L-73A Ratchet Head, a 30" Sliding Bar L-53 and two extension bars L-63 and L-123. This set, with wrench sizes of 1 7/16" to 2¼" will handle a wide range of big nut turning jobs. Set also includes KR-238 Metal Box described at left.

515-EHD Set. Above set. Tools only.

HEAVY DUTY LOXOCKETS FOR TOUGH

HEAVY DUTY LOXOCKETS*—¾" Square Drive

*Trade Mark (Lic. Reissue Pat. 19,287)

When a tough nut ties up your shop, minutes lost add up to dollars lost . . . you lose money every minute any machine is laid up for repairs or servicing. The trick is to get them OUT . . . quick. It's no trick at all when your mechanics are equipped with Snap-on Heavy Duty Loxocket Wrenches . . . that's why so many Managers and Superintendents make sure that these tools are standard equipment in their shops.

Not only do they speed up your work but on top of that the special locking device on all units puts "Safety" into the hands of every operator and mechanic. This locking device is essentially the same as the standard friction grip except that the ball is replaced with a pin. This pin snaps into the locking hole in the socket and will not release by pulling like the friction grip. A small button is incorporated in each socket which, when depressed, contacts the pin in the handle, releasing it from the socket. Interchanging of units is fast . . . simple . . . easy, yet you have the advantage of a one piece tool.

Snap-on Loxockets are machined from exceptionally high quality bar steel and held to very close tolerances. Hot broaching gives smooth, accurate openings and with no rough edges or chips at the bottom to collect dirt etc. Careful heat-treating of the Loxocket assures the utmost in strength with the exceptional toughness necessary for all heavy duty operations.

STANDARD DOUBLE HEX SERIES

Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Drive End	Length
3/4"	LDH-242		1 1/16"	1 15/32"	2"
7/8	LDH-282		1 3/16"	1 7/16"	2"
15/16	LDH-302		1 3/8"	1 7/16"	2"
31/32	LDH-312		1 13/32"	1 7/16"	2"
1	LDH-322		1 29/64"	1 1/2"	2 1/16"
1 1/16	LDH-342		1 9/16"	1 1/2"	2 1/8"
1 1/8	LDH-362		1 5/8"	1 1/2"	2 1/16"
1 3/16	LDH-382		1 11/16"	1 1/2"	2 1/4"
1 1/4	LDH-402		1 29/32"	1 3/4"	2 3/4"
1 5/16	LDH-422-A		1 7/8"	1 5/8"	2 5/16"
1 3/8	LDH-442		1 15/16"	1 3/4"	2 5/16"
1 7/16	LDH-462		2 1/32"	1 5/8"	2 5/8"
1 1/2	LDH-482		2 3/32"	1 5/8"	2 3/4"
1 9/16	LDH-502		2 5/16"	1 3/4"	2 5/8"
1 5/8	LDH-522		2 1/4"	1 3/4"	2 5/8"
1 11/16	LDH-542		2 3/8"	1 3/4"	2 3/4"
1 3/4	LDH-562		2 15/32"	1 3/4"	2 3/4"
1 13/16	LDH-582		2 1/2"	1 3/4"	2 7/8"
1 7/8	LDH-602		2 9/16"	1 3/4"	3"
2	LDH-642		2 3/4"	1 3/4"	3 1/4"
2 1/8	LDH-682		2 15/16"	1 3/4"	3 1/4"
2 3/16	LDH-702		2 15/16"	1 3/4"	3 1/4"
2 1/4	LDH-722		3 1/4"	1 3/4"	3 3/8"
2 3/8	LDH-762		3 1/4"	1 3/4"	3 3/8"

EXTRA DEEP HEXAGON SERIES

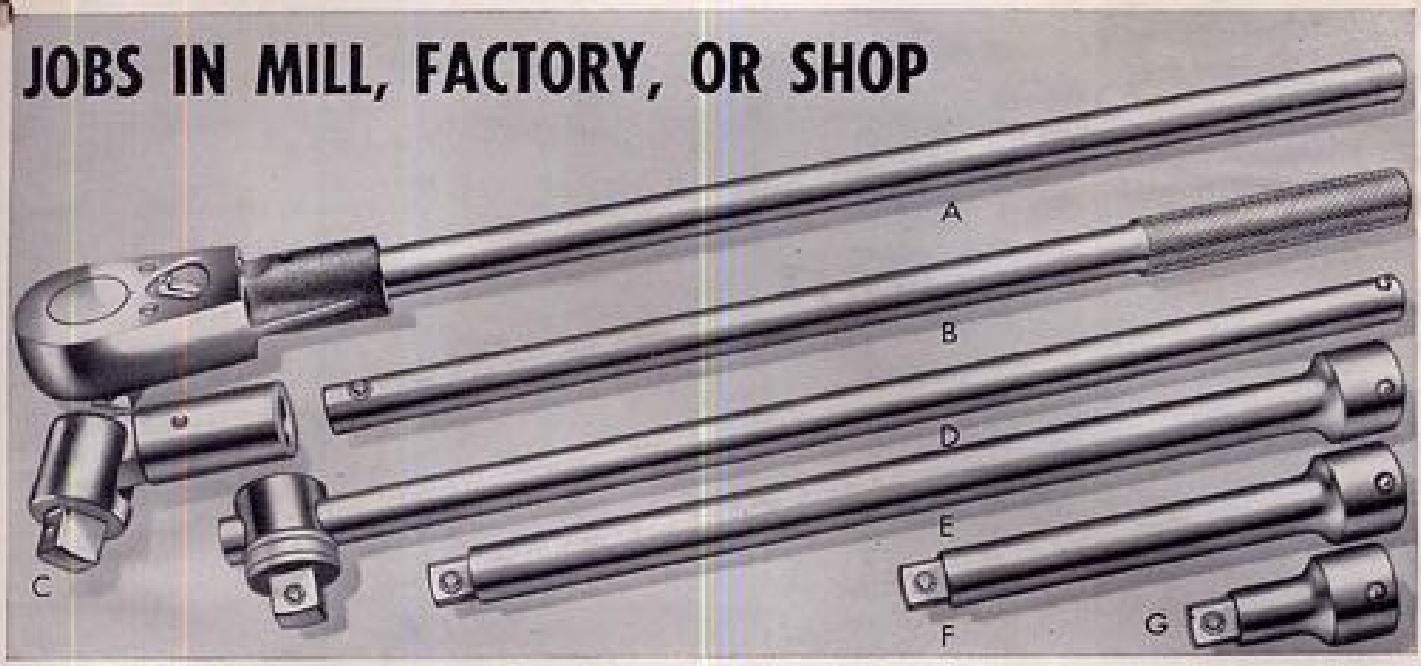
Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Drive End	Length
7/8"	LS-282		1 9/16"	1 7/16"	3 1/2"
15/16	LS-302		1 3/8"	1 7/16"	3 1/2"
1	LS-322		1 29/64"	1 1/2"	3 1/2"
1 1/16	LS-342		1 9/16"	1 1/2"	3 1/2"
1 1/8	LS-362		1 5/8"	1 1/2"	3 1/2"
1 3/4	LS-402		1 15/32"	1 1/2"	3 1/2"
1 5/16	LS-422-A		1 7/8"	1 3/4"	3 1/2"
1 3/8	LS-442		1 15/16"	1 3/4"	3 1/2"
1 7/16	LS-462		2 1/32"	1 3/4"	3 1/2"
1 1/2	LS-482		2 3/32"	1 3/4"	3 1/2"
1 9/16	LS-522		2 1/4"	1 3/4"	3 1/2"

HEAVY DUTY RATCHET ADAPTOR

(Patent No. 2,030,883)

L-672A Ratchet Adaptor. Here is a new addition to Snap-on's Heavy Duty series that will prove a real time-saver. It converts any combination of handle, extension and socket into a 44 tooth, reverse action ratcheting tool and will make your present set twice as useful. Outside diameter 2½", overall length 3 11/16".

JOBS IN MILL, FACTORY, OR SHOP



HEAVY DUTY LOXOCKET HANDLES — ¾" Square Drive

RATCHET AND DETACHABLE HANDLE

[A] **L-72SH Heavy Duty Ratchet.** Complete with the L-72H handle. Powerful leverage to break loose the tightest of those larger nuts and bolts. Efficient, smooth working, reversible ratcheting action that speeds your work. Rugged construction to stand the most strenuous heavy duty work in general auto, bus, and truck repair shops, etc.

Built into this tool is every conceivable improvement of design and construction, making it the most outstanding ¾" drive heavy duty ratchet ever offered the trade. The detachable handle, locks on to the ratchet head and will not come off until the locking button is released. Overall length, 24".

L-72S Ratchet Head only. Length 6", head thickness 1¼". Can be used on either L-72H standard handle or L-72RJ knurled grip handle.

BAR HANDLES

L-72H Handle. This handle is a solid high carbon alloy steel bar and is used with the Heavy Duty Ratchet, Heavy Duty Sliding Bar and Heavy Duty Nut Spinner. One end is fitted with a locking button for securely attaching to the ratchet and nut spinner heads. It cannot be detached accidently. Overall length 20", diameter 13/16".

[B] **L-72RJ Handle.** This solid steel handle is knurled on one end to afford a firmer, more convenient grip for those heavy turning jobs. Fits Ratchet, Nut Spinner and Sliding Bar heads illustrated. Locking button at one end locks the handle to the ratchet and nut-spinner heads to prevent slipping off and causing damage to parts or injuries to the operator. Shank diameter is 13/16", overall length 20".

NUT SPINNER

[C] **L-112DH Heavy Duty Nut Spinner.** Complete with the L-72H handle. A heavy duty unit that offers the advantages of a nut spinner handle, an offset handle and an angle head handle all in one. The detachable handle can also be used on the Ratchet Head and Sliding Head, giving a maximum tool efficiency at a minimum cost. The entire unit is built to take those tough jobs which require extra powerful leverage to break loose those large rusted-on nuts and bolts, or tighten them down. Overall length 21½".

L-112D Nut Spinner Head only. Head diameter 1 9/16", depth 2 5/16". Can be used on either of the handles listed at left.

SLIDING BAR

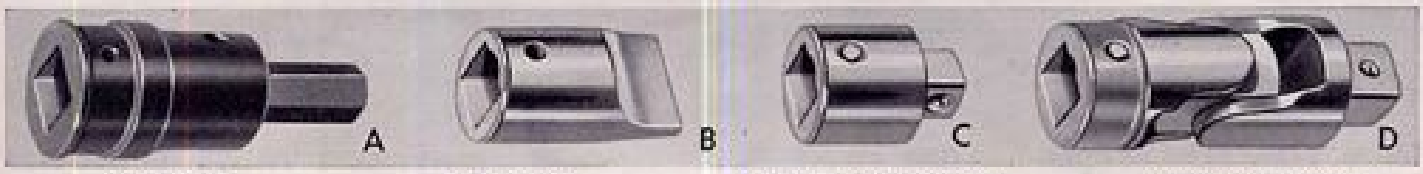
[D] **L-52BH Heavy Duty Sliding Bar.** Complete with the L-72H handle. Three tools in one—a combination sliding bar handle and offset handle, which the attachment of an extension bar converts to a tee handle. The head can be purchased separately if you already have the bar handle. A spring and ball device holds the head at any point on the handle. Overall length, 20".

L-52B Sliding Head only. Depth 2 5/16". Can be used on either of the handles listed at left.

EXTENSION BARS

Heavy Duty Extension Bars. Give you the extra reach you need on so many jobs and are probably used on more operations than any other wrench attachment. Used in conjunction with the sliding bar, they convert it for use as a "Tee" handle. Made in three lengths for your working convenience. Shank diameter is 13/16".

[E] **L-122 Extension Bar** 16 inch shank length.
[F] **L-62 Extension Bar** 8 inch shank length.
[G] **L-32 Extension Bar** 3 inch shank length.



HEX HEAD WRENCHES

For use with ¾" square drive handles. Two-piece construction permits better heat treatment of parts for maximum service. See pages 29, 35 and 43 for other hex head wrenches. Black finish.

★LAW-118 ..... Hex bit 9/16"
★SA-18-2 ..... Extra 9/16" bit
★LAW-120 ..... Hex bit ⅝"
★LAW-120-2 ..... Extra ⅝" bit
★LAW-124 ..... Hex bit ¾"
★LAW-124-2 ..... Extra ¾" bit

DRAG LINK ADJUSTER

LD-138 Drag Link Adjuster. This heavy duty unit has been made especially for drag link adjusting work on trucks and buses. The short, tapered blade will take the punishment necessary for work of this type. Loxocket release button permits fast, easy removal. Overall length of the unit is 2 5/16", outside diameter 1⅜", tip size 5/16"x1⅛". Chrome finish.

HANDLE AND SOCKET ADAPTORS

These adaptors allow you to interchange your Heavy Duty (¾" square drive) wrenches with Master (½" square drive), old style Heavy Duty (⅝" square drive), and Extra Heavy Duty (1" square drive) units. Chrome plated finish.

LA-12 Adaptor ..... ½" drive to ¾"
LA-62 Adaptor ..... ⅝" drive to ½"
LA-52 Adaptor ..... ⅝" drive to ¾"
LA-32 Adaptor ..... ⅜" drive to ¾"
LA-72 Adaptor ..... ¾" drive to 1"
LA-124 Adaptor ..... 1" drive to ¾"

UNIVERSAL JOINT

Patent No. 2,196,297

L-82 Heavy Duty Universal Joint. Whenever you must reach in at an angle after a nut, you need the working convenience of a universal joint. This tool worms in and gets those around-the-corner and under-obstruction nuts and bolts.

Machined from finest alloy steel—heat treated and tempered for maximum service under toughest working conditions. Chrome Finish. Outside diameter is 1⅝", overall length 4½".

HEAVY DUTY LOXOCKET SETS FOR 3/4" DRIVE

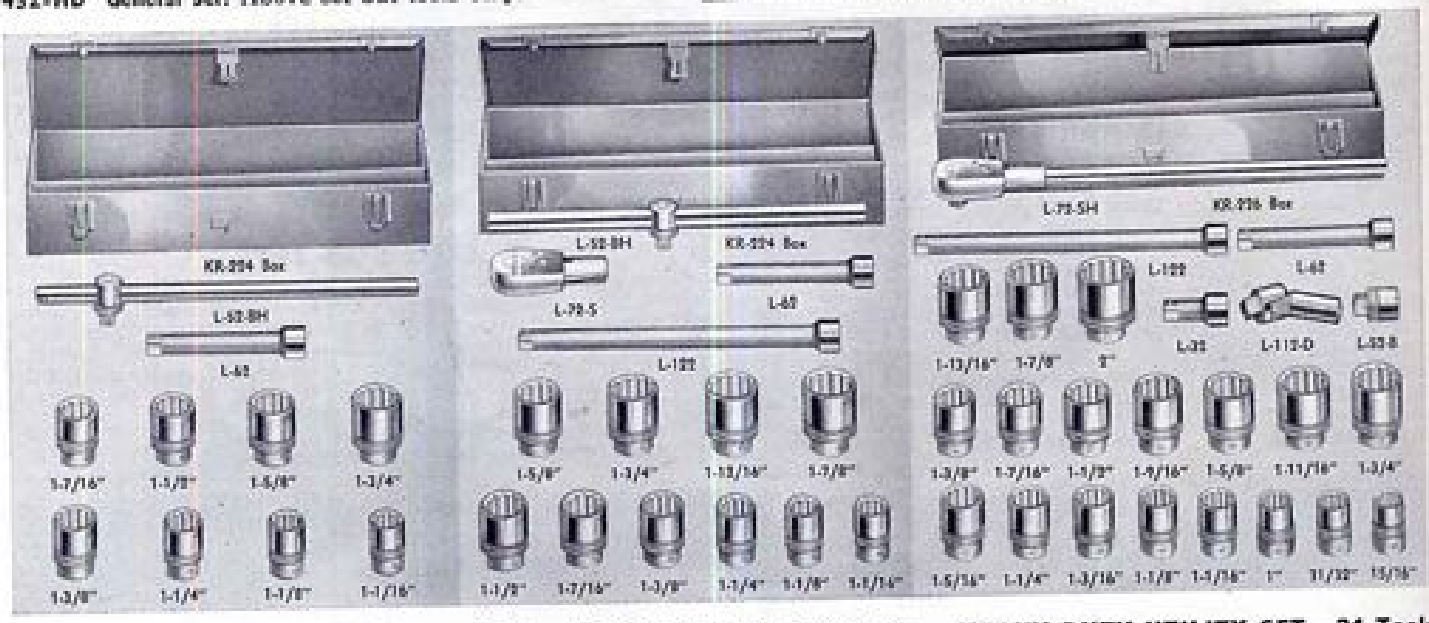
HEAVY DUTY GENERAL SET—32 TOOLS

432-HD-B Heavy Duty General Set. The right combination of tools means hours of time saved when machines and equipment are down for repair, and the proper selection of tools for production or maintenance work is a profitable investment. Equip your men to do faster, more efficient work with this complete set of heavy duty wrenches. This selection gives a Loxocket range of 7/8" to 2 3/8" with hundreds of handle and socket combinations. Units are described on pages 24 and 25. Detachable ratchet handle fits sliding head and nut spinner head. Sturdy KR-226A metal box measures 26 3/4" x 9" x 3 7/8".

432-HD General Set. Above set but tools only.

Contents of 432-HD-B Heavy Duty General Set

Stock No.	Description	Page	Stock No.	Description	Page
L-72SH	Ratchet (Complete)	25	LDH-422A	1 5/16" Double Hex Socket	24
L-52B	Sliding Tee Head	25	LDH-442	1 3/8" Double Hex Socket	24
L-112D	Nut Spinner Head	25	LDH-462	1 7/16" Double Hex Socket	24
L-672	Ratchet Adaptor	25	LDH-482	1 1/2" Double Hex Socket	24
L-82	Universal Joint	25	LDH-502	1 9/16" Double Hex Socket	24
L-32	3" Extension	25	LDH-522	1 5/8" Double Hex Socket	24
L-62	8" Extension	25	LDH-542	1 11/16" Double Hex Socket	24
L-122	16" Extension	25	LDH-562	1 3/4" Double Hex Socket	24
LDH-242	3/4" Double Hex Socket	24	LDH-582	1 13/16" Double Hex Socket	24
LDH-252	7/8" Double Hex Socket	24	LDH-602	1 7/8" Double Hex Socket	24
LDH-262	15/16" Double Hex Socket	24	LDH-642	2" Double Hex Socket	24
LDH-312	15/16" Double Hex Socket	24	LDH-682	2 1/16" Double Hex Socket	24
LDH-322	1" Double Hex Socket	24	LDH-702	2 1/8" Double Hex Socket	24
LDH-342	1 1/16" Double Hex Socket	24	LDH-722	2 1/4" Double Hex Socket	24
LDH-362	1 1/8" Double Hex Socket	24	LDH-762	2 3/8" Double Hex Socket	24
LDH-382	1 3/16" Double Hex Socket	24	KR-226A	Metal Box	Above
LDH-402	1 1/4" Double Hex Socket	24			



H. D. BASIC SET—10 Tools

410-HD-B Heavy Duty Basic Set. Selected to provide maximum utility at minimum cost for the mechanic building up his tool equipment or who has only occasional need for these powerful wrenches. Socket range of 1 5/16" to 1 3/4" handles most of heavier garage work. Set includes KR-224 red enamel metal box, size 22 5/8" x 8 5/8" x 3 1/2".

Handles: L-52BH Sliding Bar and L-62 8" Extension.

Sockets: LDH-342, LDH-362, LDH-402, LDH-442, LDH-462, LDH-482, LDH-522, and LDH-562.

410-HD Set. Above set tools only.

H. D. STANDARD SET—14 Tools

414-HD-B Heavy Duty Standard Set. Men working in fleet shops are enthusiastic about the power and safe operation provided by this set of Heavy Duty Units. The 10 Loxockets provide a size range of 1 5/16" to 1 7/8", the sliding bar handle also fits the ratchet head. Red enameled KR-224 metal box measures 22 5/8" x 8 5/8" x 3 1/2".

Handles: L-72S Ratchet Head, L-52BH Sliding Bar, L-62 8" Extension and L-122 16" Extension.

Sockets: LDH-342, LDH-362, LDH-402, LDH-442, LDH-462, LDH-482, LDH-522, LDH-562, LDH-582, LDH-602.

414-HD Set. Above set tools only

HEAVY DUTY UTILITY SET—24 Tools

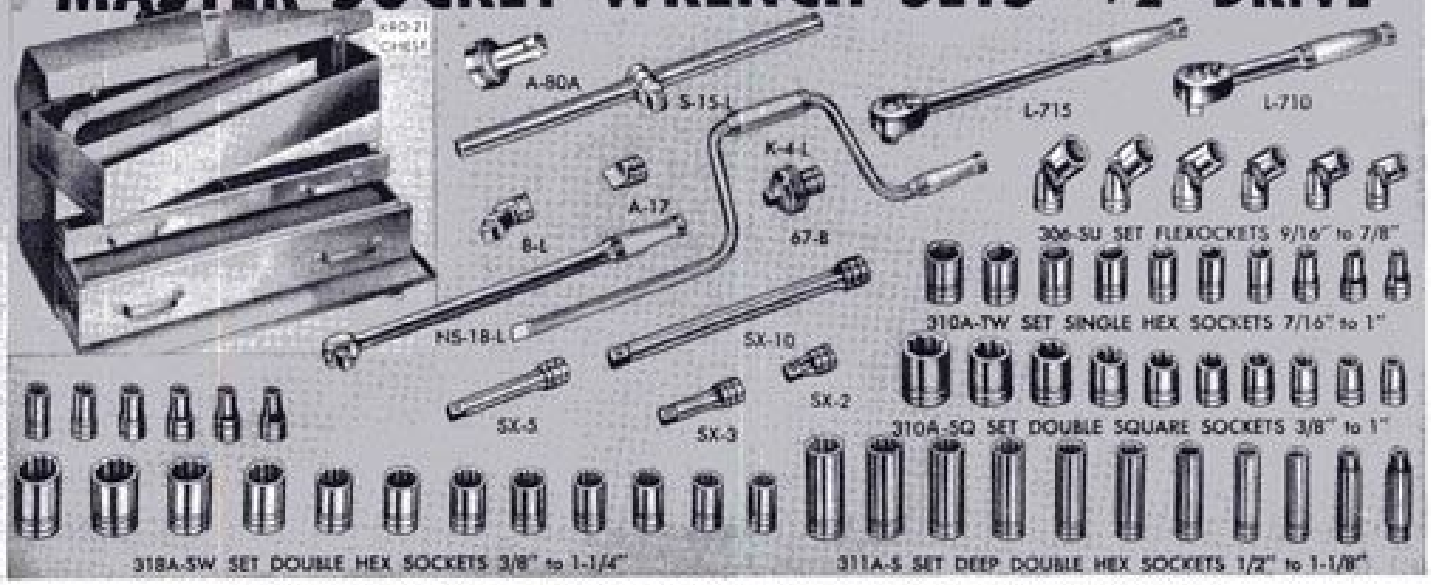
424-HD-B Heavy Duty Utility Set. A practical selection of wrenches for factory and building maintenance, medium diesel and stationary engine assembly and service, fleet shops, etc. Detachable handle fits ratchet, nut-spinner and sliding head, 18 Loxockets provide sizes 1 5/16" to 2". Red enameled metal box KR-226A measures 26 1/4" x 9" x 3 7/8".

Handles: L-72SH Ratchet, L-52B Sliding Head, L-112D Nut Spinner Head, Ext. Bars, L-32 3" long, L-62 8" long, L-122 16" long.

Sockets: LDH-302, LDH-312, LDH-322, LDH-342, LDH-362, LDH-382, LDH-402, LDH-422-A, LDH-442, LDH-462, LDH-482, LDH-502, LDH-522, LDH-542, LDH-562, LDH-582, LDH-602, and LDH-642.

424-HD Set. Above set but tools only.

MASTER SOCKET WRENCH SETS—1/2" DRIVE



368A-M-B MASTER GENERAL SET IN KRD-21 MECHANIKIT—68 TOOLS

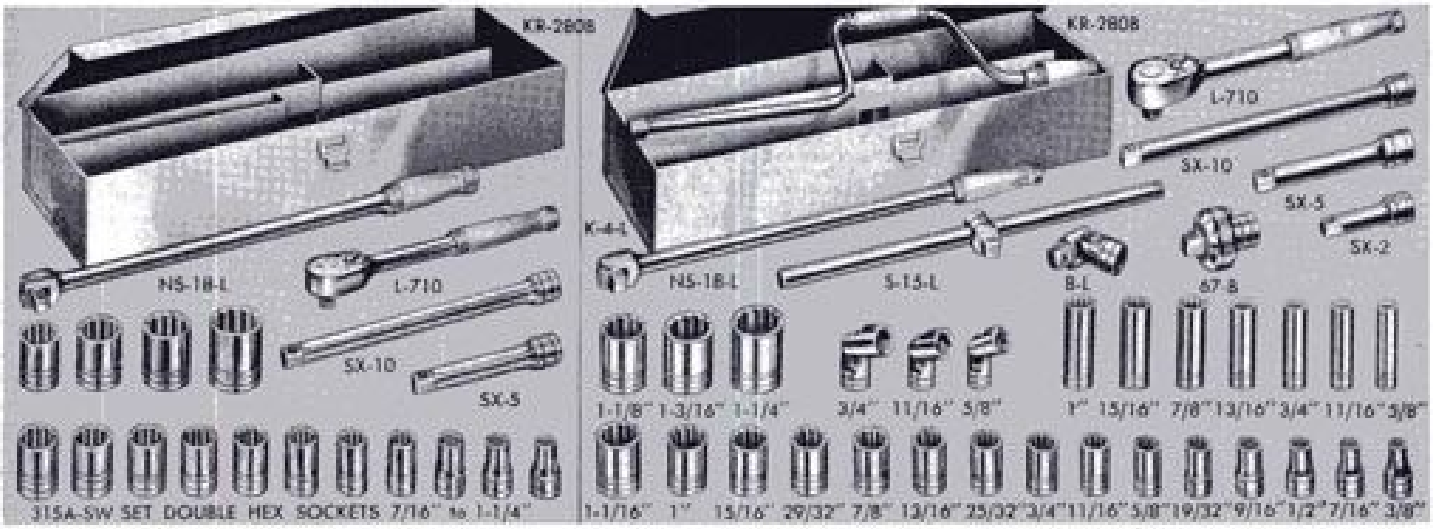
368A-M-B Master General Set. Here is our most complete set of Master (½" square drive) wrenches. Assembled for the mechanic who wants a full range of socket sizes and types together with a wide selection of handle equipment. This versatile assortment of "matched units" contributes speed and convenience to the overall proficiency of top notch mechanics in every type of service and maintenance work. Treat yourself to greater working ease with this outstanding set of Snap-on quality wrenches.

The KRD-21 MechaniKit shown above is the ideal container for these tools . . . its tote-tray and drawers are partitioned for orderly tool arrangements and safekeeping.

Contents of 368A-M-B Set

Stock No.	DESCRIPTION	See Page
NS-18L	Nut Spinner 18"	29
S-15L	Sliding Bar 15"	29
K-4L	Speeder 18¾"	29
L-710	Ratchet Wrench 10"	28
L-715	Ratchet Wrench 15"	28
67B	Ratchet Adaptor	28
8L	Universal Joint	29
SX-2	Extension Bar 2"	29
SX-3	Extension Bar 3½"	29
SX-5	Extension Bar 5"	29
SX-10	Extension Bar 10"	29
A-17	Drag Link Adapter	29
A-80A	Stud Remover	9
318A-SW	Double Hex Socket Set	30
311A-S	Deep Double Hex Socket Set	30
310A-TW	Single Hex Socket Set	31
310A-SQ	Square Socket Set	31
366-SU	Flexocket Set	31
KRD-21	Mechanikit	7

368A-M Master General Set. Above set without the Mechanikit.



319A-M-B MASTER BASIC SET—19 Tools

319A-M-B Master Basic Set. Pictured above is a basic selection of ½" square drive Snap-on "Matched Unit" wrenches. It's the ideal starter set for the alert mechanic and gives him the most useful tools possible in a small set. The right tools for the job makes your work easier. Other "matched units" can be added as the need arises. The metal box shown, conveniently holds all the units with room for additional tools. Keeps tools at hand for immediate use.

319A-M Master Basic Set. Tools only.

Stock No.	DESCRIPTION	See Page
NS-18L	Nut Spinner 18"	29
L-710	Ratchet Wrench	28
SX-5	Ext. Bar 5"	29
SX-10	Ext. Bar 10"	29
315A-SW	Double Hex Socket Set	30
KR-280B	Box, Red Enamel Finish	

SEE NEXT PAGE for MASTER SUPREME WRENCH SET

337A-M-B MASTER UTILITY SET—37 Tools

337A-M-B Master Utility Set. Set includes 18 double hex sockets in sizes ⅝" to 1⅛", 7 popular sizes of deep hex sockets for spark plug work and jobs where bolts protrude, and 3 hex flexockets. The nine handles and attachments provide complete versatility of use.

Rid your kit of obsolete, time-wasting, "misfits" and treat yourself to greater working ease with this set of Snap-on "Matched Units." Set includes KR-280B metal box which was specially designed for these tools. Box has carrying handle on the lid and measures 20" x 6½" x 3⅝" high. Red enamel finish.

337A-M Master Utility Set. Same set as above but tools only.

Stock No.	DESCRIPTION	See Page
NS-18L	Nut Spinner—18" long	29
S-15L	Sliding Bar—15" long	29
K-4L	Speeder—18¾" long	29
L-710	Ratchet Wrench	28
67B	Ratchet Adaptor Wrench	28
SX-10	Extension Bar—10" long	29
SX-5	Extension Bar—5" long	29
SX-2	Extension Bar—2" long	29
8L	Universal Joint	29
318A-SW	Double Hexagon Socket Set	30
307A-S	Deep Double Hex. Socket Set	30
SU-20	Flexocket—½" wrench size	31
SU-22	Flexocket—⅝" wrench size	31
SU-24	Flexocket—¾" wrench size	31
KR-280B	Metal Box, Red Enamel Finish	

Snap-on MASTER RATCHETS—½" SQUARE DRIVE

Snap-on "Master" Line

Features That Give You Most Value For Your Money

- Patented Palm-Grip design handles give a secure hand grip and better appearance.
- You have a choice of four different Snap-on "Master" ratchet handles and ratchet adaptor.
- Welch Plugs are used in the friction grip on all handle square drive ends.
- Four way socket grip makes it easier and faster to interchange various units.
- Hot broached chip-curled openings give you smooth strong socket walls.
- High grade alloy steel only is used to produce these Snap-on wrenches.
- Controlled heat treating combines surface hardness with skin to core toughness in every part of every tool.
- Snap-on's guarantee protects you . . . any wrench proving defective in material or workmanship will be replaced.

MASTER RATCHETS (½" Square Drive)

Snap-on ratchet wrenches are used and preferred by professional mechanics and engineers throughout industry. In every way they are fine examples of the precise engineering, machining, heat treating and finishing that characterizes all Snap-on products. The reverse ratcheting mechanisms have proved their unbeatable construction through many years of rugged use. An oiler hole or plug is provided in the head and frequent cleaning and oiling will keep the action working freely. These tools are made of high grade alloy steel, heat treated to give years of service, chrome plated for lasting appearance.

A **LR-42 Master Deluxe Ratchet.** A completely new design featuring 42 tooth ratchet action operating in a round, compact head. The increased tooth action operates smoothly and provides the working convenience of a new "bite" with very little handle movement. The head is only 1⅝" diameter and this feature plus the 42 tooth action permits the operation of this ratchet in tight places when other wrenches cannot be used. The reverse lever is mounted on top for easy operation. Overall length is 9⅝".

B **L-710 Master "Supreme" Ratchet.** This tool has a 22 tooth ratchet action for efficient operation where handle swing is limited. 9¾" long.

C **L-715 Master "Supreme" Ratchet.** Same 22 tooth action as the L-710 but having an overall length of 15". Many mechanics prefer this longer ratchet.

D **71M Master Ratchet.** An old time favorite with many tool users. Has 20 tooth ratchet action. Pawls, gear drive and plate have gunmetal finish and the handle and head unit is nickel plated. Overall Length is 9¾".

E **67B Ratchet Adaptor.** This ratcheting adaptor converts any combination of handle, extension and socket into a ratcheting tool. Convenient side button provides reverse action. This unit can be used on many jobs where other "Master" ratchets cannot operate. Also used with ½" sq. drive Torqometers shown on page 15. ½" square drive, 2 5/16" overall length, 1⅝" O.D.

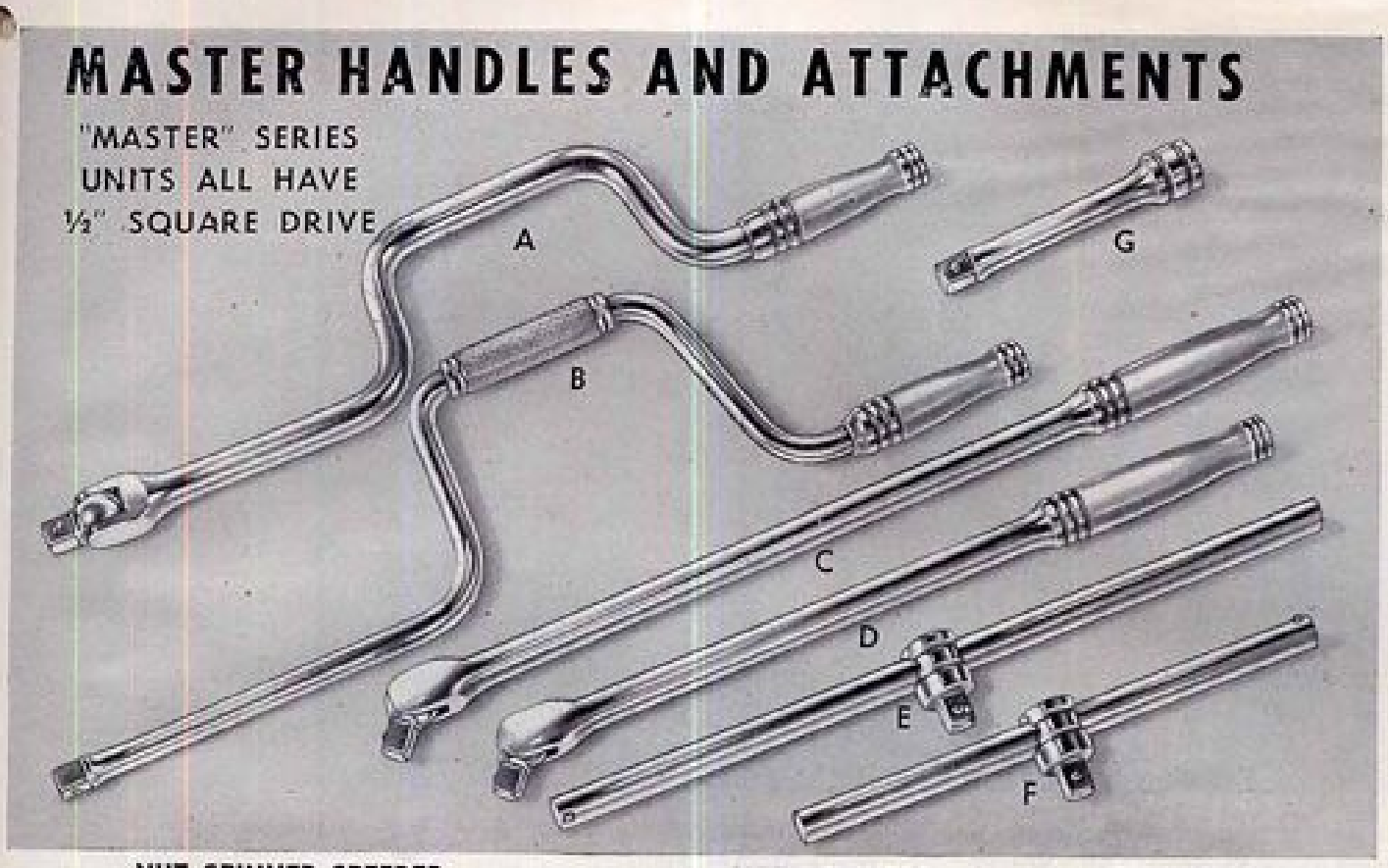
323-M-B MASTER SUPREME SET — 23 Most Needed Tools

323-M-B Snap-on Master Supreme Set. Equip yourself now with this fine set of Snap-on wrenches and enjoy the working convenience and efficiency that good tools can give you. The socket range of 7/16" to 1¼" will turn practically any hex nut you'll encounter in general servicing operations, and the selection of handles and attachments gives you turning speed, leverage and reach to take care of any situation. Rid your tool kit of worn out knuckle busters and make this set the foundation for a modern and efficient tool outfit—one which will help you work faster and easier and earn you bigger pay checks. Mechanics who have equipped themselves completely with Snap-on tools have told us that they have increased their earnings over twenty-five percent. The KR-280B metal case has separate compartments to line up your sockets. Metal carrying handle is welded to the cover which is secured by metal hinges and snap clip. Case measures 20" x 6½" x 2⅝" high and has baked-on red enamel finish.

323-M Set. Above set without the metal case.

Stock No.	Description	See Page
L-280	Ratchet Wrench 9¾"	28
K-4L	Nut Spreder 19½"	28
S-15L	Sliding Bar 15"	28
NS-18L	Nut Spinner 18"	28
SX-3	Extension Bar 3½"	28
SX-5	Extension Bar 5"	28
SX-10	Extension Bar 10"	28
U-L	Universal Joint	28
315A-SW	Set of 15 Double Hex Sockets	30
KR-280B	Metal Box, Red Enameled	—

MASTER HANDLES AND ATTACHMENTS



NUT SPINNER SPEEDER

(A) **NS-4L Nut Spinner Speeder.** A speeder, spinner and offset handle, in one. Straighten the hinged head to spin nut down and without taking it off the job, bend into offset position to tighten the nut. Shank length is 6¾", overall length 17½". Sweep radius is 2¾".

NUT SPEEDER

(B) **K-4L Speeder Handle.** There's nothing faster to use where you have many nuts that must be serviced. Spins them on or off in a hurry. Both handle grips swivel for easy operation. Shank length is 8", overall length 19½", radius of sweep 4¼". Chrome plated finish.

SLIDING TEE HANDLES

Sliding Tee Handles. A friction ball in the head snaps into the center groove to make a practical Tee Handle. Head slides to end of bar to form an offset handle. Head 1¾" deep.

(F) **S-10L Sliding Bar** ..... 10" long, ⅝" diam.

(E) **S-15L Sliding Bar** ..... 15" long, ⅝" diam.

NUT SPINNERS

Nut Spinners. The hinged socket receiving end allows you to work the tool in any position to clear obstructions and an inner spring holds the head at desired angle for easy placement on the job. Long handles give plenty of leverage for tightening nuts or breaking them loose. Straighten out the hinge and you have a nut spinner. This extremely versatile tool will prove to be a valuable time saver time and time again.

* (Pat. Nos. 2,196,297; 2,603,202 and D-152,891).

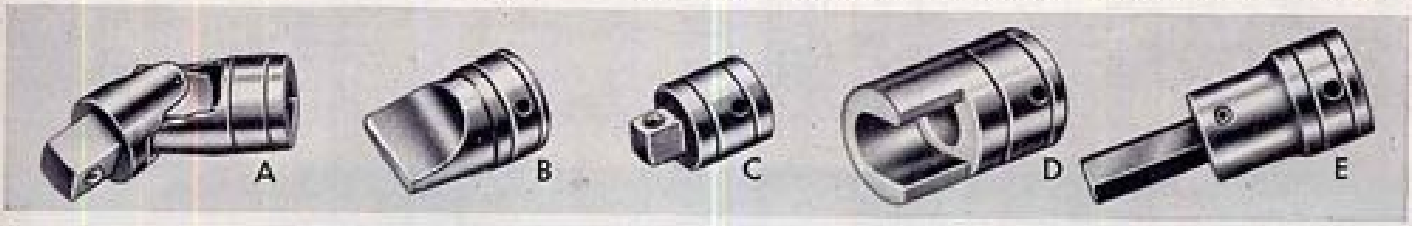
(C) **NS-18L Nut Spinner** ..... 18" long

(D) **NS-15L Nut Spinner** ..... 15" long

EXTENSION BARS

(G) **Extension Bars.** Made in seven lengths to give you greatest flexibility of use for your Master tool set. They give you that extra amount of reach that often means the difference between a tough job and an easy job. Full chrome plated and polished.

SX-2	Ext. Bar	2" long
SX-3	Ext. Bar	3½" long
SX-5	Ext. Bar	5" long
SX-10	Ext. Bar	10" long
SX-20	Ext. Bar	20" long
SX-24	Ext. Bar	24" long
SX-30	Ext. Bar	30" long



ATTACHMENTS FOR MASTER HANDLES (½" Square Drive)

(A) UNIVERSAL JOINT

No. 8-L Universal Joint. (Pat. No. 2,196,-297). Now fitted with inner spring device which will hold the joint at any angle for easy application to the job, but which does not interfere with the swivel action of the tool in use. ½" square drive, 2⅞" long, 1 9/16" O.D. Accurately machined—extremely compact—short coupled—reaches into those tight places.

(B) DRAG LINK ADJUSTERS

Made for slotted nuts on steering gear assemblies, drag links and tie rods. ½" square drive. 1 11/16" long. The A-26 is for Model "A" Ford and Houdaille shock absorbers.

A-15 Adjuster. 1 9/16" x .150" driving blade tip.

A-17 Adjuster. 1 11/16" x .150" driving blade tip.

A-26 Adjuster. ⅝" x .150" driving blade tip.

(C) HANDLE ADAPTORS

Interchange your Ferret and Heavy Duty units with Master handles and sockets . . . adaptors convert the square drive of the handles as indicated.

HD-1	½"	Square drive handle to ⅝"
A-2	⅝"	Square drive handle to ½"
A-4	½"	Square drive handle to ⅜"
LA-12	½"	Square drive handle to ¾"
LA-62	¾"	Square drive handle to ½"

(D) WEATHERHEAD SOCKETS

Designed to fit over and turn those weatherhead copper fittings without damaging them in any way Enables you to do a fast efficient job.

WH-14 Socket. Fits 7/16" tube fittings.

WH-20H Socket. Fits ⅝" tube fittings.

(E) HEX HEAD WRENCHES

Hex head socket attachments for use with ½" square drive handles. Two piece construction allows individual heat treating of the parts for maximum service life. The bits are held securely in the socket by means of set screws. See page 35 for ⅜" square drive sizes and page 25 for ¾" square drive sizes.

Wrench Size	Complete Tool		Extra Bit only		Set Screw No.
	Stock No.	Length	Stock No.	Bit Length	
⅜"	★SA-12	2⅞"	★SA-12-2	1⅝"	SA-12-1
½"	★SA-18	3⅝"	★SA-18-2	2⅜"	SA-12-1
⅝"	★SA-18	3⅝"	★SA-18-2	2⅜"	SA-12-1

Snap-on MASTER LINE SOCKETS

Precision Machined for accurate

A Deep Hexagon Sockets. Ideal for spark plugs, spring "U" bolts and for nuts set down deeply over bolts . . . extra depth gives you the additional clearance necessary to service them properly. All sizes listed below are double hexagon broached.

Wrench Size	Stock No.	O. D. Socket End	O. D. Drive End	Length
1/4"	S-161	29/32"	37/64"	3 1/4"
5/16"	S-181	15/16"	37/64"	3 1/4"
3/8"	S-201	45/64"	37/64"	3 1/4"
11/16"	S-221	31/32"	29/32"	3 1/4"
7/16"	S-241	1 3/64	31/32"	3 1/4"
15/32"	S-261	1 3/16"	1 1/16"	3 1/4"
7/16"	S-281	1 5/16"	1 1/8"	3 1/4"
15/32"	S-301	1 9/32"	1 5/16"	3 1/4"
1"	S-321	1 11/32"	1 3/8"	3 1/4"
1 1/16"	S-341	1 7/16"	1 3/8"	3 1/4"
1 1/8"	S-361	1 9/32"	1 7/16"	3 1/4"

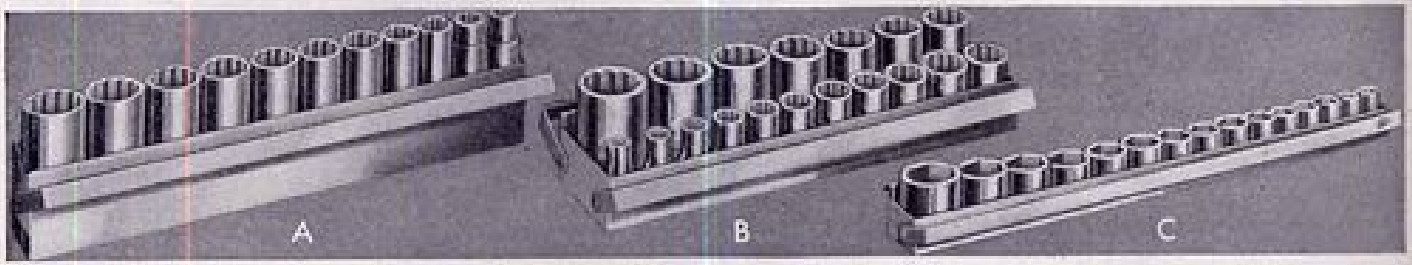
B Double Hexagon Sockets. Double broached, extra thin, straight walled . . . the ideal socket for all-around use.

Wrench Size	Stock No.	O. D. Socket End	O. D. Drive End	Length
3/8"	SW-121	37/64"	7/8"	1 1/2"
7/16"	SW-141	41/64"	7/8"	1 1/2"
1/2"	SW-161	29/32"	7/8"	1 1/2"
9/16"	SW-181	15/16"	7/8"	1 1/2"
19/32"	SW-191	29/32"	7/8"	1 1/2"
5/8"	SW-201	15/16"	7/8"	1 1/2"
11/16"	SW-221	31/32"	29/32"	1 1/2"
3/4"	SW-241	1 3/64	31/32"	1 1/2"
13/16"	SW-251	1 1/16"	1"	1 1/2"
15/16"	SW-261	1 1/8"	1 1/16"	1 1/2"
7/8"	SW-281	1 3/16"	1 1/8"	1 1/2"
*29/32"	SW-291	1 1/4"	1 3/16"	1 1/2"
15/16"	SW-301	1 9/32"	1 3/16"	1 1/2"
1"	SW-321	1 11/32"	1 1/4"	1 1/2"
1 1/16"	SW-341	1 7/16"	1 3/8"	1 5/8"
1 1/8"	SW-361	1 1/2"	1 7/16"	1 3/4"
1 3/16"	SW-381	1 5/8"	1 9/16"	1 3/4"
1 1/4"	SW-401	1 11/16"	1 5/8"	1 3/4"

*SW-291 is extra heavy for shackle work.

C Single Hexagon Sockets. Single hex gives greater wall contact needed to turn those tightly rusted on or worn nuts and bolts.

Wrench Size	Stock No.	O. D. Socket End	O. D. Drive End	Length
3/8"	TW-121	37/64"	7/8"	1 1/2"
7/16"	TW-141	41/64"	7/8"	1 1/2"
1/2"	TW-161	29/32"	7/8"	1 1/2"
9/16"	TW-181	15/16"	7/8"	1 1/2"
19/32"	TW-191	29/32"	7/8"	1 1/2"
5/8"	TW-201	31/32"	7/8"	1 1/2"
11/16"	TW-221	31/32"	29/32"	1 1/2"
3/4"	TW-241	1 3/64	31/32"	1 1/2"
13/16"	TW-251	1 1/16"	1"	1 1/2"
15/16"	TW-261	1 1/8"	1 1/16"	1 1/2"
7/8"	TW-281	1 3/16"	1 1/8"	1 1/2"
15/16"	TW-301	1 9/32"	1 3/16"	1 1/2"
1"	TW-321	1 11/32"	1 1/4"	1 1/2"
1 1/16"	TW-341	1 7/16"	1 3/8"	1 5/8"
1 1/8"	TW-361	1 1/2"	1 7/16"	1 3/4"
1 3/16"	TW-381	1 5/8"	1 9/16"	1 3/4"
1 1/4"	TW-401	1 11/16"	1 5/8"	1 3/4"



A 311A-S-T Deep Hex Socket Set. 11 piece set. All sizes of the deep hex sockets listed above, in KTR-240 metal tray.

311A-S Set. Above set, but tools only.

KTR-240 Metal Tray only.

307A-S Deep Hex Socket Set. 7 piece set. S-281, S-221, S-241, S-261, S-281, S-301 and S-321. No tray.

B 318A-SW-T Double Hex Socket Set. 18 piece set. Contains all sizes SW-121 to SW-401 listed above. Complete with KTR-234 double row tray as illustrated.

318A-SW Set. Above set, but tools only.

KTR-234 Metal Tray only.

315A-SW-T Double Hex Socket Set. 15 piece set. Not shown but contains all sizes except SW-121, SW-291 and SW-381, in KTR-215 single row metal tray.

315A-SW Set. Above set, but tools only.

KTR-215 Metal Tray only.

312A-SW-T Double Hex Socket Set. 12 piece set. Not shown but contains SW-141, SW-161, SW-181, SW-191, SW-201, SW-221, SW-241, SW-251, SW-261, SW-281, SW-301 and SW-321, in KTR-235 metal tray.

312A-SW Set. Above set, but tools only.

KTR-235 Metal Tray only.

310A-SW-T Double Hex Socket Set. 10 piece set. Not shown, but contains SW-141, SW-161, SW-181, SW-191, SW-201, SW-221, SW-241, SW-251, SW-261, and SW-281, in KTR-236 metal tray.

310A-SW Set. Above set, but tools only.

KTR-236 Metal Tray only.

C 315A-TW-T Single Hex Socket Set. 15 piece set, TW-141, TW-161, TW 181, TW-191, TW-201, TW-221, TW-241, TW-251, TW-261, TW-281, TW-301, TW-321, TW-341, TW-361 and TW-401. Complete in KTR-215 single row metal tray as illustrated.

315A-TW Set. Above set, but tools only.

KTR-215 Metal Tray only.

with 1/2" SQUARE DRIVE

non-slip fit!

Superior Features Make *Snap-on* SOCKET WRENCHES YOUR BEST BUY!

Finest Steel. No expense is spared in securing the finest available material. Should metallurgy develop even better steels, Snap-on will put them into use.

Continued Research. In laboratories equipped with modern chemical and physical testing equipment, including machines constructed expressly for Snap-on and built to our exacting specifications, trained metallurgists conduct continuous research to develop the highest possible quality in our products.

Hot Broaching. Examine a Snap-on socket and note the smooth, clean cut wrench corners and walls. This is the result of broaching while the socket is heated and contributes strength as well as accuracy to the tool.

Heat Treatment. Only the most advanced processes are good enough for Snap-on tools and furnaces of several types are used to impart the exact necessary degree of hardness, toughness and strength to every part.

Chamfered Openings. All Snap-on sockets have a chamfered bevel on the wrench opening to aid in guiding the socket onto the nut.

Thin, Straight Walled Sockets. The use of special alloy steels make possible sockets having incredible strength, yet with thin straight walls that set down over nuts placed extremely close to obstructions. The thin walls permit close control of heat treatment and allow the heat to penetrate thoroughly and evenly. You get greater strength and lighter weight . . . important factors in every day use.

Size Accuracy. Tolerances are very closely held, each Snap-on socket being made a definite number of thousandths larger than the nut it fits. This close tolerance means a snug fit on the nut and prevents rounding it or wearing the socket. Close tolerances of square drive openings and handle drive squares eliminates socket wabble while affording easy interchange of units.

Appearance. Snap-on sockets and handles are chromium plated and polished to a lustrous rust resistant finish. They look like quality tools, they have the "feel" of quality—on the job they prove they are quality. Compare them with all others and you'll want Snap-on socket wrenches.

Ⓐ **Double Square Sockets.** All have accurately broached, double square openings to allow maximum working convenience where handle movement is limited. Machined from steels famous for their toughness and durability. Get the complete set listed below and have the correct size available when you run into a job requiring the use of a square socket.

Wrench Size	Stock No.	O. D. Socket End	O. D. Drive End	Length
3/8"	SW-412	25/32"	3/4"	1 13/16"
7/16"	SW-414	27/32"	3/4"	1 1/2"
1/2"	SW-416	29/32"	3/4"	1 1/2"
9/16"	SW-418	31/32"	29/32"	1 1/2"
5/8"	SW-420	1 1/16"	1"	1 1/2"
11/16"	SW-422	1 3/16"	1 1/8"	1 1/2"
3/4"	SW-424	1 5/32"	1 5/16"	1 1/2"
13/16"	SW-426	1 7/16"	1 3/8"	1 5/8"
7/8"	SW-428	1 1/2"	1 5/16"	1 3/4"
1"	SW-432	1 15/16"	1 5/8"	1 7/8"

Ⓑ **Hexagon Flexockets.** An extremely compact, short coupled, single broached, hexagon flexocket that works freely from a wide angle. Reaches the nuts in tight, cramped quarters that would be impossible to get at and turn with regular sockets, or with any other type of wrench equipment. Its short coupling contributes to easy work in close quarters. Increase the adaptability of your Master handles with the complete series listed below.

Wrench Size	Stock No.	O. D. Socket End	O. D. Drive End	Length
3/8"	SU-18	25/32"	13/16"	2 1/8"
7/16"	SU-20	13/16"	5/8"	1 15/32"
1/2"	SU-22	1 1/64"	7/8"	2 1/8"
9/16"	SU-24	1 5/32"	1 1/8"	2 1/8"
5/8"	SU-26	1 7/16"	1 1/8"	2 15/16"
3/4"	SU-28	1 1/4"	1 1/8"	2 15/16"

Ⓐ **310A-TW-T single Hex Socket Set.** 10 piece set. Consisting of TW-141, TW-161, TW-181, TW-201, TW-221, TW-241, TW-261, TW-281, TW-301 and TW-321 in KTR-237 metal tray as illustrated. Tools listed on page 30.

306-SU Set. Above set, but tools only.

KTR-237 Metal Tray only.

317-TW-T Single Hex Socket Set. 17 piece set. Containing the complete series of TW-type single hexagon sockets shown and listed on page 24. TW-121 to TW-401 inclusive in KTR-234 double row metal tray.

317-TW Set. Above set, but tools only.

KTR-234 Metal Tray only.

Ⓑ **310A-SQ-T Double Square Socket Set.** 10 piece set. Contains the entire range of square sockets listed above, in KTR-239 metal tray.

310A-SQ Set. Above set, but tools only.

KTR-239 Metal Tray only.

Ⓒ **Screw Driver Attachments.** Can be used on any master 1/2" square drive handle.

Bit Size	Complete Tool		Socket Only	Bit Only	Set Screw No.
	Stock No.	Lgth.	Stock No.	Stock No.	
1/4"x1/4"	★SW-284	4"	SW-284-1	★SW-284-2	SA-12-3
5/16"x1/4"	★SW-324	4"	SW-324-1	★SW-324-2	SA-12-3
3/8"x1/4"	★SW-485	4"	SW-485-1	★SW-485-2	SA-12-3

Ⓒ **306-SU-B Hexagon Flexocket Set.** 6 piece set. Contains all flexockets listed above, in KR-206 sturdy metal box.

306-SU Set. Above set, but tools only.

KR-206 Metal Box only.

Ⓓ **Semi Deep Single Hex Sockets**

Made with thicker walls and deeper broaching than standard sockets to provide better turning power for "Acorn" nuts and other toughies. Each socket is 2" long and has side hole for locking button.

TW-241-S 3/8" hex opening, Nose O.D. 1 1/4"
TW-261-S 7/16" hex opening, Nose O.D. 1 1/4"
TW-281-S 1/2" hex opening, Nose O.D. 1 5/16"
TW-301-S 9/16" hex opening, Nose O.D. 1 3/8"

Snap-on FERRET TOOLS 3/8" square drive, made

YOU GET ALL THESE SUPERIOR FEATURES IN Snap-on FERRET WRENCHES

- Patented design palm-grips on handles
- Choice of 20, 30 or 42 tooth-action ratchets and ratchet adaptor
- Long slim handles for close-in work
- Welch Plug friction-grip construction
- Wide range of socket types and sizes
- 4-way socket grip for faster hook-ups
- Chip-curled hot broached socket walls
- Large variety of special attachments
- High grade alloy steel for strength
- Controlled hardening for long wear

FERRET RATCHET WRENCHES

Patent Nos. D-132,891, 2,020,883

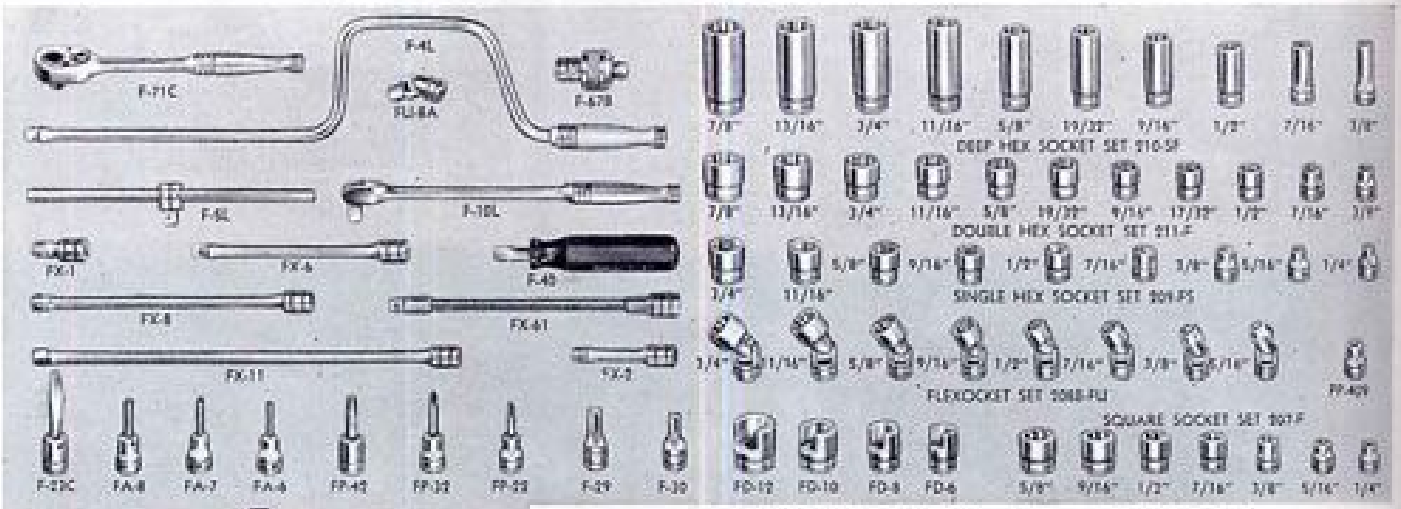
These fine ratchets have many hidden qualities to give you years of trouble-free service under all kinds of working conditions. Concealed hardened bearings in the head, the use of special alloy steels and carefully controlled heat treatment together with extra-ordinary care in the machining of all parts, insure a free working ratcheting action at all times . . . with the strength to stand up to the toughest kind of nut-turning. The heads and comfortable "Palm-Grip" handles have a heavy chrome plate finish. Welch plug construction of the locking device means easy replacing of the spring for cleaning or replacement. Head diameters of types "B" and "C" are 1 1/16", depth 7/16", overall lengths 7 9/16".

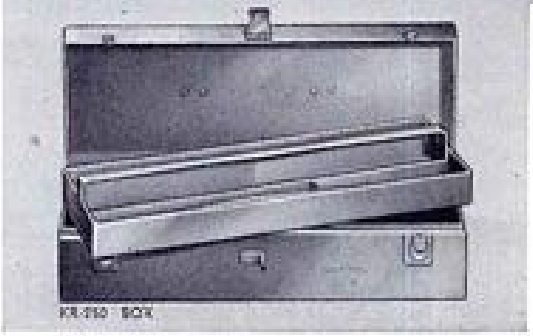
(A) **FR-42 Deluxe Ferret Ratchet.** This is the finest Ferret ratchet that Snap-on has yet developed. Ratchet action is produced through a dependable pawl-gear mechanism which provides forty-two "bites" around the circle, you get a new "bite" with only a 9° handle movement. The round head allows operation in very close places. Head, bearing plates and pawls are machined from tough alloy steels carefully heat treated to give resistance to wear. Friction grip has neat "Welch Plug" construction. Tool has new "Palm-Grip" handle and the shank and head are full chrome polished. Head diameter is 1 9/32", overall length, 7 9/16".

(B) **F-71C Ferret Ratchet** 30 tooth action allows a new bite every 12° of handle movement. New style pawl engages 2 teeth for extra strength.

(B) **F-710A Ferret Ratchet** 20 tooth action. Only 18° handle movement necessary for operation.

(C) **F-70M Ferret Ratchet.** A fine tool at a lower price. 20 tooth action, nickel plated finish, gun-metal finish on head plate. Friction ball is embossed (not welch plug construction). Hand grip is our "convex-curve" design. Overall length 6 5/16".





FERRET GENERAL SET — 72 TOOLS

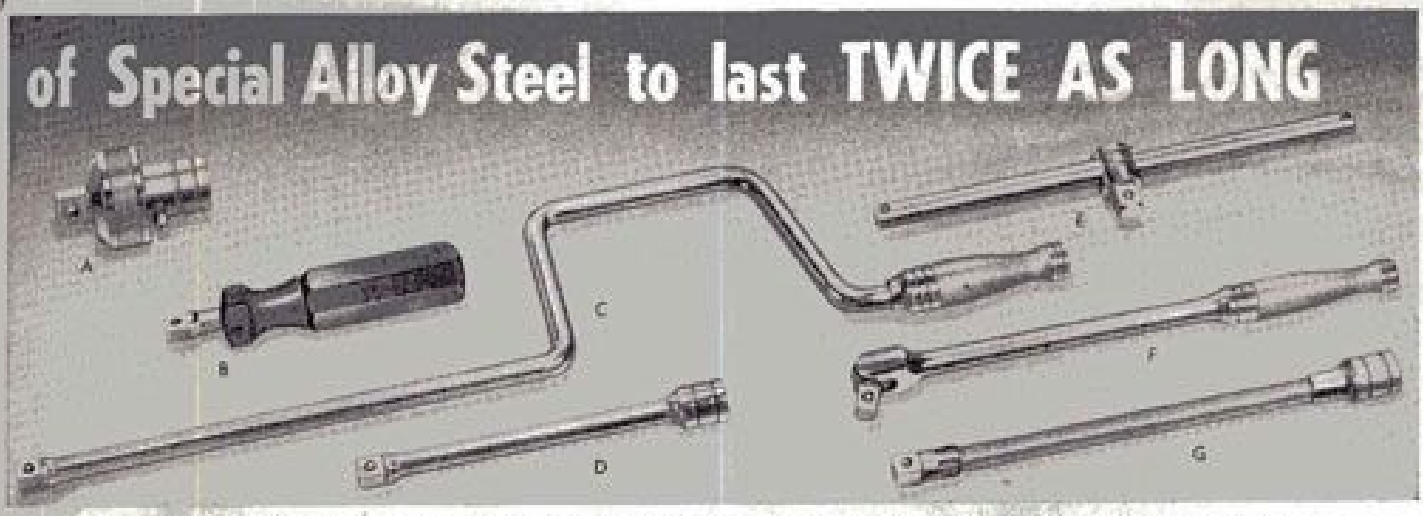
272-F-B Ferret General Set. Our most complete Ferret Set, carefully selected to handle a majority of servicing requirements. Set also includes the KR-250 Metal Box purposely designed to hold these units. Tote-tray is partitioned to hold sockets.

Handles: (pages 32 and 33) F-71C Ratchet; F-67B Ratchet Adaptor; F-5L Sliding Bar; F-4L Speeder; F-10L Nut Spinner; F-50 Plastic Grip Handle; FX-1, FX-2, FX-6, FX-8, FX-11 Extension Bars; FX-61 Flextension; and FU-8A Universal Joint (page 35).

Sockets: (pages 34 and 35) 211-F Double Hex Set; 209-FS Single Hex Set; 210-SF Deep Double Hex Set; 207-F Double Square Set; 208B-FU Flexocket Set; FD-6, FD-8, FD-10, FD-12 Weatherhead Sockets; F-23C Screw Driver; FA-6, FA-7, FA-8 Hex Head Wrenches; PP-409 Pipe Plug Socket; FP-22, FP-32, FP-42 Phillips Screw Drivers; F-29, F-30 Clutch-Type Drivers.

272-F Ferret General Set. Above set of tools but without the box.

# of Special Alloy Steel to last TWICE AS LONG



NEW FERRET HANDLES COMBINE STRENGTH, SLIMNESS, BEAUTY, — 3/8" Sq. Drive

F-67-B Ferret Ratchet Adaptor.* Your Ferret tool outfit is never complete until you have added this popular item . . . originally developed by Snap-on it has been hailed by mechanics as the most useful new tool designed in years. It converts any combination of Ferret handle, extension and socket into a reverse action ratcheting tool . . . a time saver where a standard ratchet is inconvenient to use . . . Provides ratcheting speed on many nut turning jobs where you cannot possibly use a standard type ratchet wrench. Here is a precision built tool that will add tremendously to the usefulness of your Ferret wrenches. Exceptionally useful for work with ⅜" square drive Torqometers. (See page 15.) Outside diameter is 1¹⁄₁₆", length 2". *Pat. No. 2,020,883

F-40 Ferret Plastic Grip Handle. Make your Ferret Set more useful with the addition of this shockproof plastic handle. Ideal for electrical work. 5¼" long.

Ferret Speeders. It is impossible to beat a speeder type of wrench handle for fast nut running . . . spins them on or off, fast, with two hand operation. These tools feature Snap-on's new "Palm-Grip" handle which rotates to provide easy operation. Three models offer the right length shank for your needs. Radius of the sweep is 3¼".
*Pat. No. D-132,891

F-4L Speeder. 17¾" long. 8½" Shank.
F-4M Speeder. 24½" long. 15" Shank.
F-4N Speeder. 36½" long. 27" Shank.

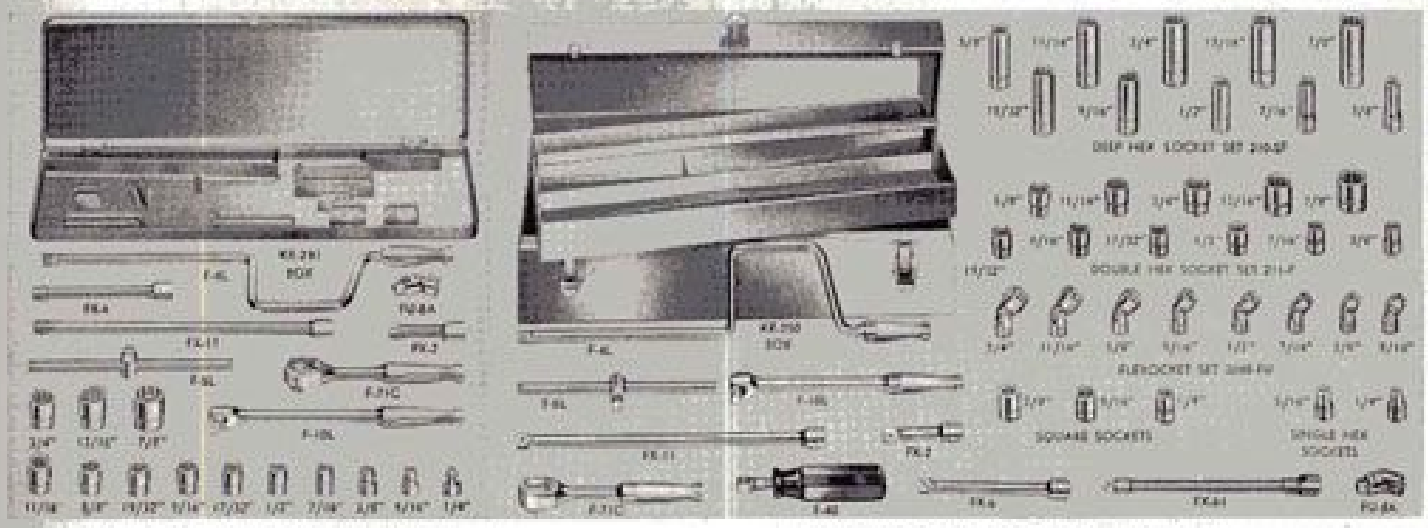
Ferret Extension Bars. Lengthen reach of any Ferret handle. The advantage of having just the right length extension bar often means getting the job done quicker and with less effort.

FX-1 Extension Bar ..... 1½" Long.
FX-2 Extension Bar ..... 3" Long.
FX-6 Extension Bar ..... 6" Long.
FX-8 Extension Bar ..... 8" Long.
FX-11 Extension Bar ..... 12" Long.
FX-20 Extension Bar ..... 20" Long.

F-5L Ferret Sliding Bar. Head slides to any position . . . a friction ball contacts groove in the handle to center the tool as a Tee handle. Handle length 8", diameter 1³⁄₃₂", head depth 1³⁄₁₆".

F-10L Ferret Nut Spinner.* Plenty of leverage for pulling nuts up tight or for breaking them loose . . . , the swivel head is held in a semi-flex condition at any position by means of an inner spring. Length 9½". Head diameter 1³⁄₁₆".
*Pat. Nos. 2,196,297, 2,003,202 and D-132,891

★FX-61 Ferret Flextension. Acts as a flexible drive between wrench handle and socket and provides an easy method of turning nuts in awkward positions . . . works around corners and over obstructions. The tool consists of a ⅜" diameter flexible steel cable with live rubber center shaft fitted securely to male and female square drive socket ends. Length is 8". Not intended for breaking nuts loose or similar tough jobs.



FERRET STANDARD SET — 21 Tools

221-F-B Ferret Standard Set. This carefully selected assortment provides the basic handle equipment and thirteen sockets needed to handle a majority of nut turning jobs in automotive, aviation, refrigeration, and other service fields. Within its size range, no other set of wrenches can equal it for convenience and dependability. Set includes the specially designed KR-281 Metal Box which measures 19¼" x 5⅝" x 1¼".

Handles: (Shown on pages 32, 33 and 35) F-71C Ratchet; F-4L Speeder; F-5L Sliding Bar; F-10L Nut Spinner; FX-2, FX-6, FX-11 Ext. Bars; FU-8A Universal Joint.

Sockets: (Shown on page 34) FS-081, FS-101 Single Hex Sockets and eleven Double Hex Sockets F-121 to F-281.

221-F Ferret Set. Above set but tools only.

FERRET UTILITY SET — 44 Tools

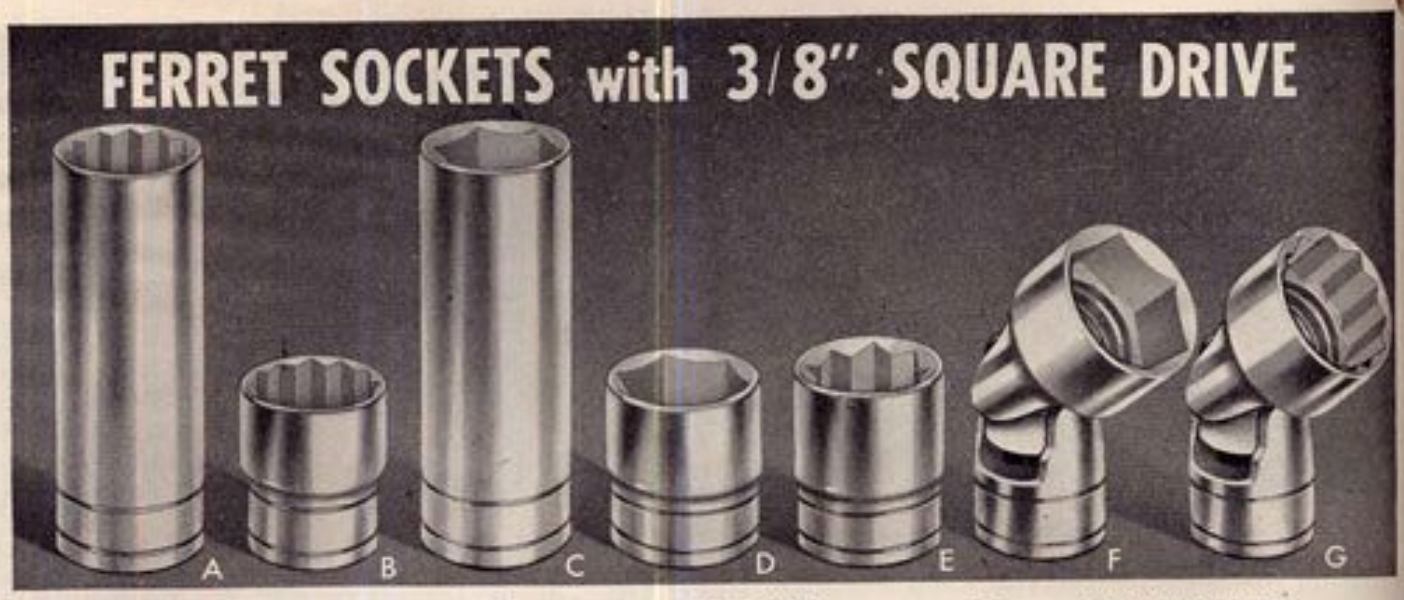
244-F-B Ferret Utility Set. For greater working convenience and faster servicing, replace old misfit wrenches with this set of 44 matched Ferret units. Their precision built, slender handles and sockets were originated by Snap-on to squeeze into tight places and service hard-to-reach nuts on intricate machines and engines that defy other types of wrenches. The high grade steels, provide amazing degrees of strength in such slender tools. Set includes the KR-250 metal box and tray, box measures 18½"x6⅝"x 4½" and has suitcase type handle. Red enamel finish.

Handles: (Shown on pages 32, 33 and 35) F-71C Ratchet; F-4L Speeder; F-5L Sliding Bar; F-10L Nut Spinner; F-40 Plastic Handle; FX-2, FX-6, FX-11 Ext. Bars; FX-61 Flextension; and FU-8A Universal Joint.

Sockets: (Shown on pages 34 and 35) 211-F Double Hex Socket Set; 210-SF Deep Double Hex Socket Set; FS-081, FS-101, Single Hex Sockets; 208B-FU Flexocket Set; F-208, F-210, F-212 Double Square Sockets.

244-F Ferret Set. Above set but tools only.

FERRET SOCKETS with 3/8" SQUARE DRIVE



NEW FERRET LINE

Offers The Finest Sockets And Attachments It Is Possible To Buy!

- **Longer Range of Sizes.** New sizes have been added to practically every series of Ferret sockets and attachments. These sizes, covering a range of ¼" to 3⅛", make the New Ferret Line a versatile combination of units.
- **New Socket Design** with beautiful chrome finish gives these tools a smooth, striking appearance . . . makes them stand out from other tools wherever they are used. They are easy to work with, too, for their thin walls enable them to squeeze into the closest places, yet afford the maximum strength necessary to break loose stubborn nuts and bolts. Larger, easier-to-read markings help you quickly spot the size you need.
- **Seven Socket Wrench Types.** The addition of the deep single hexagon socket series gives you three different styles of broaching in both the standard and extra deep lengths plus the handy Flexocket series. Seven different types, 56 different sockets in all.
- **Four Way Socket Grip.** The friction grip hole has been replaced with shallow indentations machined in all four sides of the square drive opening. This allows faster, more convenient interchanging of units as sockets grip securely on any of the four sides.
- **Chip-Curled Broaching.** No more rough bottoms inside the socket to collect dirt and grease. The smoothly rounded bottoming is formed during the hot broaching process to give you the finest in socket construction.
- **Wide Range of Attachments.** You can find a Ferret attachment for almost every job you'll run across, in sizes to fit your requirements. All have been redesigned to give you the finest in matched tool equipment.

A DEEP DOUBLE HEX

Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Handle End	Length
3/8"	SF-121		11/16"	11/16"	1 3/4"
7/16"	SF-141		25/32"	25/32"	1 3/4"
1/2"	SF-161		13/16"	13/16"	1 3/4"
9/16"	SF-181		13/16"	13/16"	2"
11/16"	SF-191		15/16"	15/16"	2 1/4"
3/4"	SF-201		15/16"	15/16"	2 1/4"
13/16"	SF-221		29/32"	15/16"	2 1/2"
7/8"	SF-241		1"	15/16"	2 1/2"
15/16"	SF-261		1 1/32"	15/16"	2 1/2"
1 1/8"	SF-281		1 1/16"	1 1/16"	2 1/2"

B STANDARD DOUBLE HEX

Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Handle End	Length
3/8"	F-121		11/16"	11/16"	1 9/16"
7/16"	F-141		25/32"	11/16"	1 9/16"
1/2"	F-161		13/16"	11/16"	1 9/16"
9/16"	F-171		7/8"	11/16"	1 9/16"
5/8"	F-181		29/32"	13/16"	1 9/16"
11/16"	F-191		15/16"	13/16"	1"
3/4"	F-201		15/16"	7/8"	1"
13/16"	F-221		29/32"	7/8"	1 1/16"
7/8"	F-241		1"	7/8"	1 1/16"
15/16"	F-261		1 1/32"	15/16"	1 1/4"
1"	F-281		1 1/16"	1 1/16"	1 1/4"

D STANDARD SINGLE HEX

Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	FS-081		5/8"	11/16"	1 1/16"
5/16"	FS-101		25/32"	11/16"	1 1/16"
3/8"	FS-121		13/16"	11/16"	1 1/16"
7/16"	FS-141		25/32"	11/16"	1 1/16"
1/2"	FS-161		13/16"	11/16"	1 1/16"
9/16"	FS-181		29/32"	13/16"	1 1/16"
5/8"	FS-201		15/16"	7/8"	1"
11/16"	FS-221		1 1/32"	15/16"	1 1/16"
3/4"	FS-241		1"	15/16"	1 1/16"

C DEEP SINGLE HEX

Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Handle End	Length
3/8"	SFS-121		11/16"	11/16"	1 3/4"
7/16"	SFS-141		25/32"	11/16"	1 3/4"
1/2"	SFS-161		13/16"	11/16"	1 3/4"
9/16"	SFS-181		29/32"	13/16"	2"
3/4"	SFS-201		15/16"	7/8"	2 1/4"

E STANDARD DOUBLE SQUARE

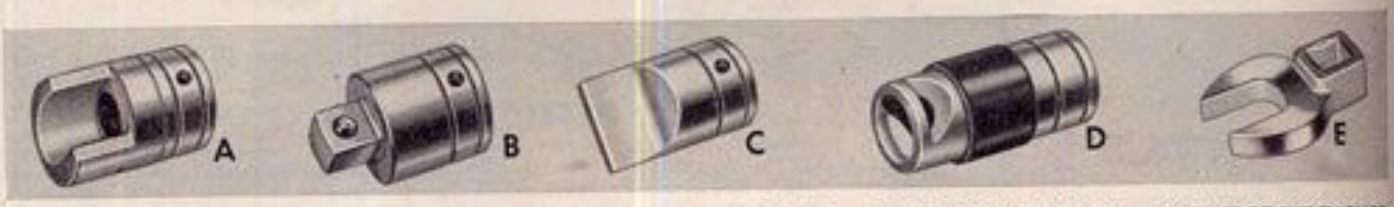
Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	F-308		11/16"	11/16"	7/8"
5/16"	F-310		5/8"	11/16"	7/8"
3/8"	F-312		13/16"	11/16"	7/8"
7/16"	F-314		29/32"	13/16"	1"
1/2"	F-316		7/8"	13/16"	1"
9/16"	F-318		1"	15/16"	1 1/16"
5/8"	F-320		1 1/16"	15/16"	1 1/16"

F SINGLE HEX FLEXOCKETS

Wrench Size	Stock No.	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
5/16"	FS-10A	11/16"	11/16"	1 3/16"
3/8"	FS-12A	11/16"	11/16"	1 3/16"
7/16"	FS-14A	25/32"	11/16"	1 3/16"
1/2"	FS-16A	13/16"	11/16"	1 3/16"
9/16"	FS-18A	13/16"	11/16"	1 3/16"
5/8"	FS-20A	7/8"	11/16"	1 3/16"

G DOUBLE HEX FLEXOCKETS

Wrench Size	Stock No.		Outside Diameter: Socket End	Outside Diameter: Handle End	Length
7/16"	FU-14A		11/16"	11/16"	1 13/16"
1/2"	FU-16A		13/16"	11/16"	1 13/16"
9/16"	FU-18A		13/16"	11/16"	1 13/16"
5/8"	FU-20A		7/8"	11/16"	1 13/16"
11/16"	FU-22A		1 1/32"	13/16"	1 13/16"
3/4"	FU-24A		1"	13/16"	1 13/16"



WEATHERHEAD SOCKETS

A Remove and replace Weatherhead copper fittings without damaging these soft metal parts. 4 sizes, all 1¼" long.

FD-6 Socket. Fits 3/16" fitting.
FD-8 Socket. Fits ¼" fitting.
FD-10 Socket. Fits 5/16" fitting.
FD-12 Socket. Fits ⅜" size.

HANDLE ADAPTORS

B Enable you to interchange Ferret wrenches with Midget and Master units.

TM-1 Adaptor. Converts ⅜" sq. drive handles to ¼".
TA-3 Adaptor. Converts ¼" sq. drive handles to ⅜".
A-2 Adaptor. Converts ⅜" sq. drive handles to ½".
A-4 Adaptor. Converts ½" sq. drive handles to ⅜".

DRAG LINK SOCKET

C **F-22A Drag Link Socket.** A heavy duty, wide bladed screw driver attachment that will prove ideal for adjusting and tightening slotted nuts on steering gear assemblies, shock absorbers, drag links, etc. Blade is 1 1/16" wide and 5/64" thick. Overall length of tool 1 15/32".

PAN SCREW DRIVERS

D For removing Chevrolet pan screws. The F-21 is for 1939 and earlier models and the F-21N for 1940 up to the present models. Blades are 5/64" thick.

★F-21 Pan Screw Driver. Blade width 7/16", length 1 21/32".

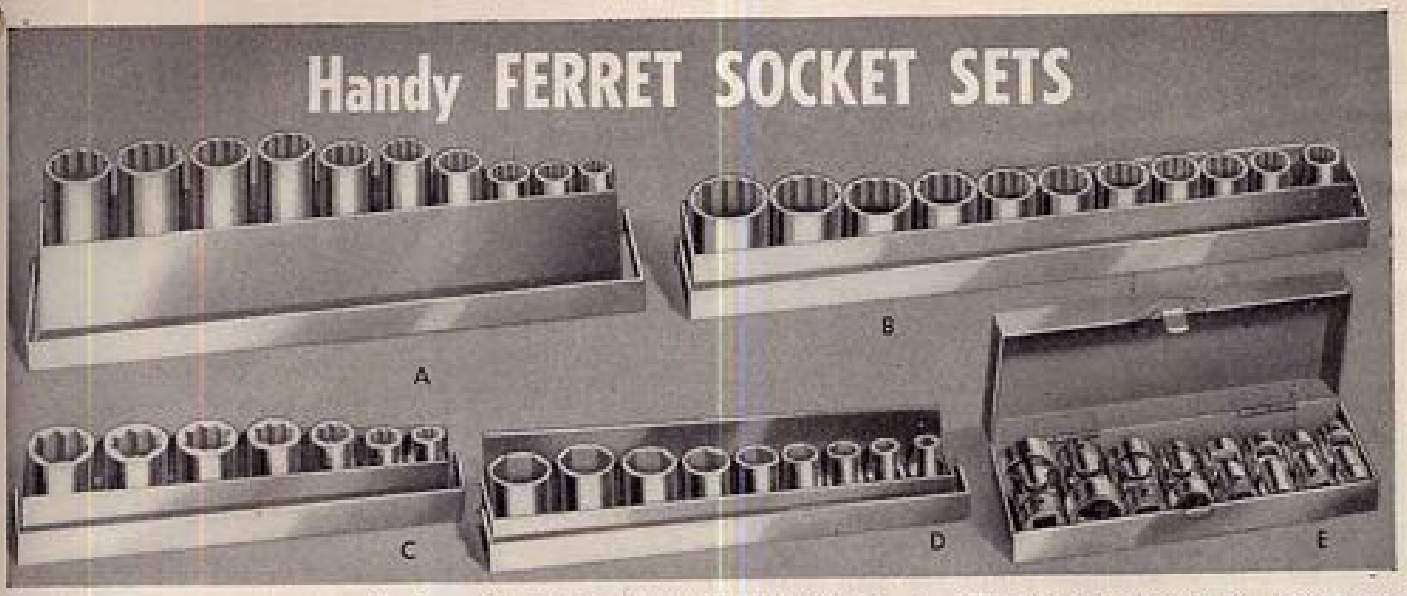
★F-21N Pan Screw Driver. Blade width ½", 1 5/8" long.

CROWFOOT WRENCHES

E For pipe fittings or for nuts where space is limited.

Stock Number	Wrench Opening	Length
FCO-14	7/16"	1 1/16"
FCO-16	1/2"	1 1/16"
FCO-18	9/16"	1 1/16"
FCO-20	5/8"	1 1/16"
FCO-22	11/16"	1 5/16"
FCO-24	3/4"	1 5/16"

Handy FERRET SOCKET SETS



A 210-SF-T Deep Double Hex Socket Set. 10 piece set. Contains all deep double hex sockets SF-121 to SF-281 listed on opposite page, in KTR-231 metal tray.

210-SF Set. Above set, tools only.

KTR-231 Metal Tray.

B 211-F-T Standard Double Hex Socket Set. 11 piece set. Contains all standard double hex sockets F-121 to F-281 listed on opposite page, complete in KTR-230 metal tray.

211-F Set. Above set, tools only.

KTR-230 Metal Tray

C 207-F-T Standard Square Socket Set. 7 piece set. Includes all standard square sockets F-208 to F-320 listed on opposite page, in the KTR-223 metal tray.

207-F Set. Above set, tools only.

KTR-233 Metal Tray.

D 209-FS-T Standard Single Hex Socket Set. Includes all standard single hex sockets FS-681 to FS-281 listed on opposite page, in the KTR-232 metal tray.

209-FS Set. Above set, tools only.

KTR-232 Metal Tray.

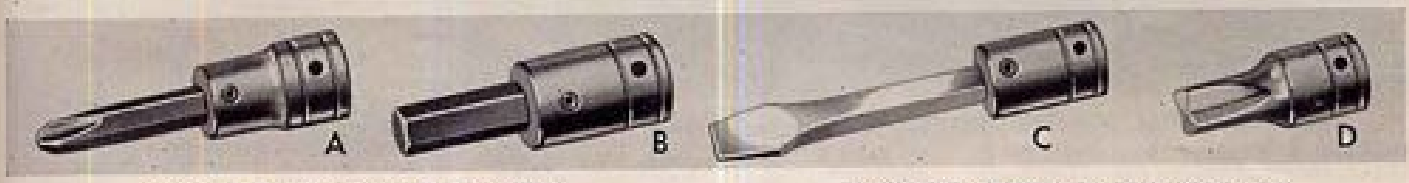
E 208B-FU-B Flexsocket Set. 8 Flexsockets FS-10A, FS-12A, FU-14A, FU-16A, FU-18A, FU-20A, FU-22A and FU-24A, in KR-222 metal box.

208B-FU Set. Above set, tools only.

KR-223 Metal Box.

206-FS Single Hex Flexsocket Set. 6 piece set. (Not illustrated). Contains Flexsockets FS-10A to FS-20A. No box.

205-SFS Deep Single Hex Socket Set. 5 piece set. (Not illustrated) Contains all deep single hex sockets SFS-121 to SFS-201 listed on opposite page. No tray.



PHILLIPS SCREW DRIVERS AND BITS

A The detachable bits are tempered extremely hard for strength and wearability and are easily and inexpensively replaced when necessary. The FP-41 has a short bit for door handle work.

Phillips Bit Size	Complete Tool		Socket Only		Bit Only		Screw
	Stock No.	Length	Stock No.	Length	Stock No.	Length	Stock No.
2	★FP-22	2 1/16"	FP-22-1	1 1/16"	★MP-22-2A	1 1/4"	FP-22-3
3	★FP-32	2 1/16"	FP-32-1	1 1/16"	★FP-32-2A	1 3/4"	FP-32-3
4	★FP-41	1 11/16"	FP-41-1	1 1/16"	★FP-41-2	15/16"	FP-42-3
4	★FP-42	2 1/16"	FP-42-1	1 1/16"	★FP-42-2A	1 5/16"	FP-42-3

STANDARD SCREW DRIVERS AND BITS

C Hexagon stock blades specially heat treated to give them strength and toughness necessary for long service life.

Complete Tool			Socket Only		Bit Only		Screw
Stock No.	Tip Size	Length	Stock No.	Length	Stock No.	Length	Stock No.
★F-25C	1/4" x 1/16"	3"	F-25C-1	1 1/16"	★F-25C-2	2 1/16"	FP-42-3
★F-35C	5/16" x 5/64"	3"	F-35C-1	1 1/16"	★F-35C-2	2 1/16"	FP-42-3
★F-31C	5/16" x 1/16"	2 1/16"	F-31C-1	1 1/16"	★F-31C-2	2 1/16"	FP-42-3

HEX HEAD SCREW DRIVERS AND BITS

B Detachable bits permit individual heat treatment of parts for greater strength and toughness. If you break a bit you can replace it easily and cheaply without having to buy a complete new tool.

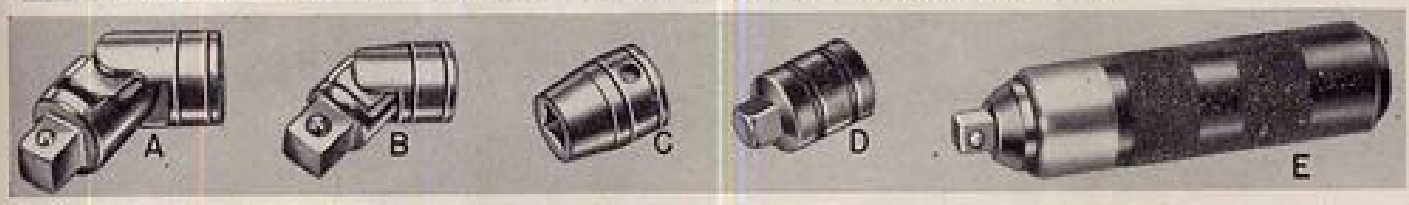
Wrench Size	Complete Tool		Socket Only		Bit Only		Screw
	Stock No.	Length	Stock No.	Length	Stock No.	Length	Stock No.
5/16"	★FA-6	2 1/16"	FA-6-1	1 1/16"	★FA-6-2	1 1/16"	FP-22-3
3/8"	★FA-7	2 1/16"	FA-7-1	1 1/16"	★FA-7-2	1 1/16"	FP-22-3
7/16"	★FA-8	2 1/16"	FA-8-1	1 1/16"	★FA-8-2	1 1/16"	FP-22-3
9/16"	★FA-10	2 1/16"	FA-10-1	1 1/16"	★FA-10-2	1 1/16"	FP-42-3
5/8"	★FA-12	2 1/16"	FA-12-1	1 1/16"	★FA-12-2	1 1/16"	FP-42-3

CLUTCH TYPE SCREW DRIVERS

D **Clutch Type Screw Drivers.** Ferret socket drivers to handle clutch-type screws, also known as "butterfly" or "figure-8" screws, which are becoming increasingly popular for production assembly work of various kinds. Both are one piece units made short to handle work in close quarters. Machined from high quality alloy steel and then carefully heat treated to give exceptional strength and toughness to the tips. Overall length 1 1/16".

★F-29 Clutch Screw Driver. Bit diameter 13/32".

★F-30 Clutch Screw Driver. Bit diameter 7/64".



UNIVERSAL JOINTS

Patent No. 2,196,297

Saves a lot of tough work fumbling after those awkward-to-get-at studs and bolts. Tension spring holds tool in a semi-flex state for easy application to the job. 3/8" Square Drive.

A **FU-8A Universal Joint.** 3/4" outside diameter, length 1 31/32".

B **FU-80A Universal Joint.** 15/16" outside diameter, length 1 9/16".

PIPE PLUG SOCKETS

These single square sockets are designed for use on the pipe plugs used on many current model cars. You can get at those fairly inaccessible plugs easily if you add these sockets to your Ferret equipment. Overall length 1".

C **PP-409 Socket.** 9/32" square opening.

C **PP-410 Socket.** 5/16" square opening.

C **PP-412 Socket.** 3/8" square opening.

D **PPM-410 Pipe Plug Socket.** This socket has a 5/16" square milled on the end to fit the recessed openings in 3/8" pipe plug fittings. These pipe fittings are being used extensively for drain plugs and a socket of this type makes their removal and installation easier, faster and safer. Overall length is 1 11/16", fits 3/8" square drive Ferret handles.

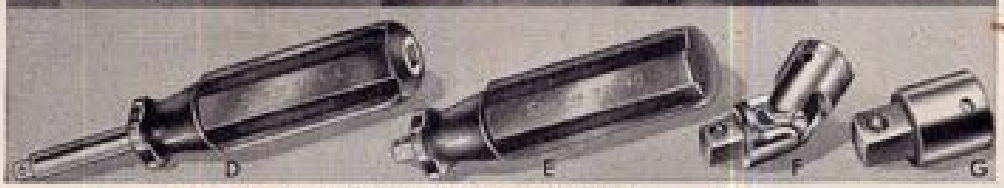
IMPAK DRIVER

E **PIT-12 Impak Driver.** This practical tool develops great impact power for removing rusted nuts, bolts and screws. It can be used with 3/8" square drive Ferret Phillips, Standard, Clutch and Hex Head screwdriver attachments as well as Ferret Sockets. In use, the bit or socket is positioned on the job and the end of the Driver struck a sharp blow with a hammer. Instructions are stamped on the tool.

Snap-on MIDGET SOCKET WRENCH

MIDGET RATCHET WRENCH—¼" Square Drive

GM-70-M Midget Ratchet Wrench. The finest ratchet ever made in such a small size . . . a minature model of our Standard Master Ratchets. It reverses by shifting the thumb lever. Gears have 20 teeth to allow working in only an 18° arc . . . it can be used in very close places where it is difficult to use other handles. The overall length is only 4 7/16", head thickness is ⅜".



SQUARE SOCKETS

A Double square broached, thin walls for close-quarter work.

Wrench Size	Stock No.	Max. O.D.	L'gth
¼"	TM-408	½"	⅜"
5/16"	TM-410	5/16"	⅜"
⅜"	TM-412	11/16"	⅜"

DEEP HEX SOCKETS

B Single hexagon broaching with bolt clearance length.

Wrench Size	Stock No.	Max. O.D.	L'gth
5/16"	STM-6	½"	2"
7/16"	STM-7	½"	1 7/16"
½"	STM-8	½"	2"
9/16"	STM-9	½"	2"
⅝"	STM-10	½"	2"
11/16"	STM-11	½"	2"
¾"	STM-12	5/8"	2"
7/8"	STM-14	¾"	2"

108-STM Set. Above 8 sockets.

STANDARD HEX SOCKETS

B Single hexagon broaching with straight walls on all sizes.

Wrench Size	Stock No.	Max. O.D.	L'gth
5/16"	TM-6	½"	⅜"
7/16"	TM-7	½"	⅜"
½"	TM-8	½"	⅜"
9/16"	TM-9	½"	⅜"
⅝"	TM-10	½"	⅜"
11/16"	TM-11	½"	⅜"
¾"	TM-12	5/8"	⅜"
7/8"	TM-14	¾"	⅜"
15/16"	TM-16	11/16"	⅜"

109-TM Set. Above 9 sockets.

SPECIAL MIDGET UNITS—¼" Square Drive

Plastic Grip Handles. Extremely useful, the shock-proof plastic Octo-Grip handle provides insulation for work on electrical jobs and gives a firm non-slip hand hold.

B **TM-4S Plastic Grip Handle.** Has a ¼" drive end inserted in handle so it can be used as an extension bar. Overall length 5¾", shank 2" long.

TM-4 Plastic Grip Handle. Same as TM-4S but without handle drive end hole.

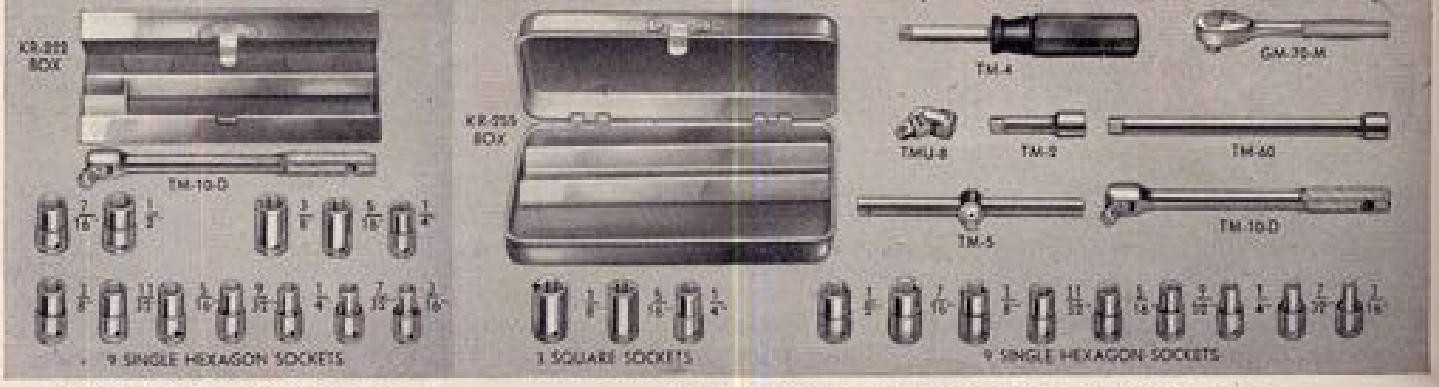
B **TM-40 Plastic Grip Handle.** Short shank model, only 4⅛" overall length.

B **TMU-8 Universal Joint.** One of the biggest time savers you can own . . . works around obstructions to do a fast efficient job. Overall length is 1 15/64", ½" O.D., ¼" square drive.

B **Adaptors.** Permit interchange of ¼" square drive units with 9/32" and ⅜" square drive handles and sockets.

A-6 Adaptor converts 9/32" handle to ¼".
A-8 Adaptor converts ¼" handle to 9/32".
TM-1 Adaptor converts ⅜" handle to ¼".
TA-3 Adaptor converts ¼" handle to ⅜".

EVERY MECHANIC NEEDS A MIDGET WRENCH SET FOR SMALL ASSEMBLY



113-TM-B MIDGET BASIC SET

113-TM-B Midget Basic Set. For the man who wishes to start with the basic units as a good foundation on which to build his complete set. Set consists of TM-10D Nut Spinner (see opposite page) and nine standard hexagon sockets and three square sockets listed above, in KR-222 metal box.

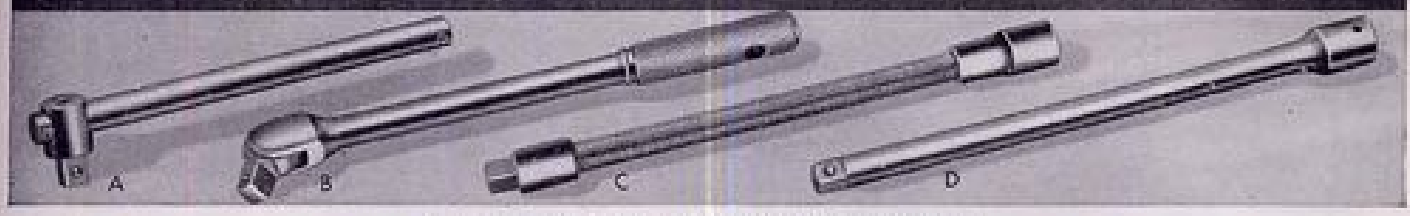
113-TM Set. Above set tools only.

119-TM-B MIDGET STANDARD SET—19 Tools

119-TM-B Midget Standard Set. Contains the nineteen most needed Midget wrenches . . . a fine set for workers in any line of business where small nuts or bolts have to be turned. When you have small, nut turning jobs to do lay aside those "too-big" tools and put speed and working convenience into your hands with tools tailored to the job. Set consists of TM-10D Nut Spinner, TM-2 and TM-60 Extension Bars TM-5 Sliding Bar, (see opposite page), GM-70M Ratchet, TM-4 Plastic Grip Handle, TMU-8 Universal Joint, the nine standard hexagon sockets and three square sockets all listed above. Complete in convenient KR-255 red enameled metal box.

119-TM Midget Set. Above set of Midget tools without the box.

SETS WITH 1/4" SQUARE DRIVE



MIDGET HANDLES AND ATTACHMENTS

TM-5 Midget Sliding Bar. Combines a tee handle with an offset handle. Sliding head can be used at any position on handle and can be slid back and forth to provide turning room without removing tool from job. Handle length is 4½", head depth is 1 5/16", ¼" drive.

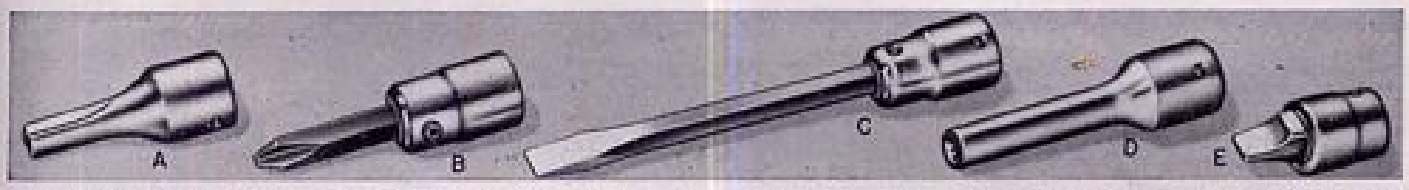
TM-10D Midget Nut Spinner.* A handle providing the utmost utility . . . head is held in a semi-flex condition by a hidden spring and can be used at any position from the handle. Combines a speeder handle for quicker nut-turning and an offset handle for bringing them up tight. Length 6".

*Pat. Nos. 2,106,297 and 2,005,202.

★TM-61 Midget Flextension. Made of best ¼" diameter flexible cable, this addition to your Midget line of tools will help you reach awkward, hard-to-get-at nuts where a solid handle or extension bar cannot possibly be used. Not intended for breaking loose tight nuts, etc. Length 6".

Midget Extension Bars. Lengthen the reach and increase the adaptability of Midget handles. Three popular sizes give you maximum convenience when working on tiny jobs.

TM-2 Extension Bar.....2" overall length.
TMX-4 Extension Bar.....4" overall length.
TM-60 Extension Bar.....6" overall length.



Midget Clutch-type Screw Drivers. Built short for close-quarter work, these drivers provide the best method of turning clutch-type screws, sometimes called "butterfly" or "figure-8" screws. ¼" square drive, 1⅜" long.

★TM-27 Screw Driver. 1 1/64" bit diameter.
★TM-30 Screw Driver. 15/64" bit diameter.
★TM-31 Screw Driver. 5/32" bit diameter.

Windshield Wiper Sockets. For turning windshield wiper ovalhead screws.

TM-22A Socket....⅛"x3/16" oval opening. Overall length of above is 1⅞".
TM-23 Socket.....5/32"x7/32" oval opening. Overall length of above is 1 5/16".

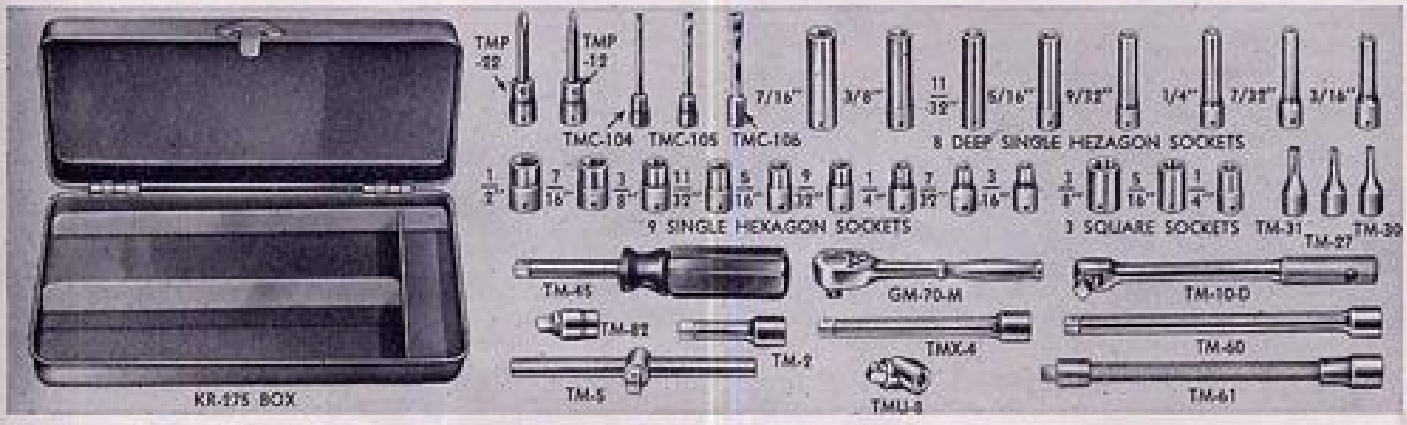
Midget Phillips Screw Drivers. On many applications a socket wrench handle and screw driver attachment is preferred to the use of a standard type driver.

★TMP-12 No. 1 Bit Sc. Dr. 1 27/32" total length.
★MP-12-2A Extra No. 1 Bit for above. 1 7/16" long.
★TMP-22 No. 2 Bit Sc. Dr. 1 27/32" total length.
★MP-22-2A Extra No. 2 Bit for above. 1 7/16" long.
★TMP-23 No. 2 Bit Sc. Dr. 3½" total length.
★TMP-23-2 Extra No. 2 Bit for above. 2½" long.
FP-22-3 Allen Set Screw for above.

★TM-82 Short Screw Driver. Can often be used to great advantage where working space is limited. Blade tip is ¾"x.038" and is replaceable. Overall length ⅞".
TM-82-1 Screw Driver Socket only.
★TM-82-2 Screw Driver Bit only.
TM-82-3 Locking Pin only.

Standard Screw Drivers. Slender, long screw drivers with standard tip. Useful for carburetor work and for turning small screws. Each is 3¼" long.

★TMC-104 Screw Driver. 3/16"x.032" tip.
TMC-104-1 Socket only.
★TMC-104-2 Extra Bit.
★TMC-105 Screw Driver. ¼"x.032 tip.
TMC-105-1 Socket only.
★TMC-105-2 Extra Bit.
★TMC-106 Screw Driver. ⅜"x.042" tip.
TMC-106-1 Socket only.
★TMC-106-2 Extra Bit.
TMC-104-3 Set Screw for above tools.



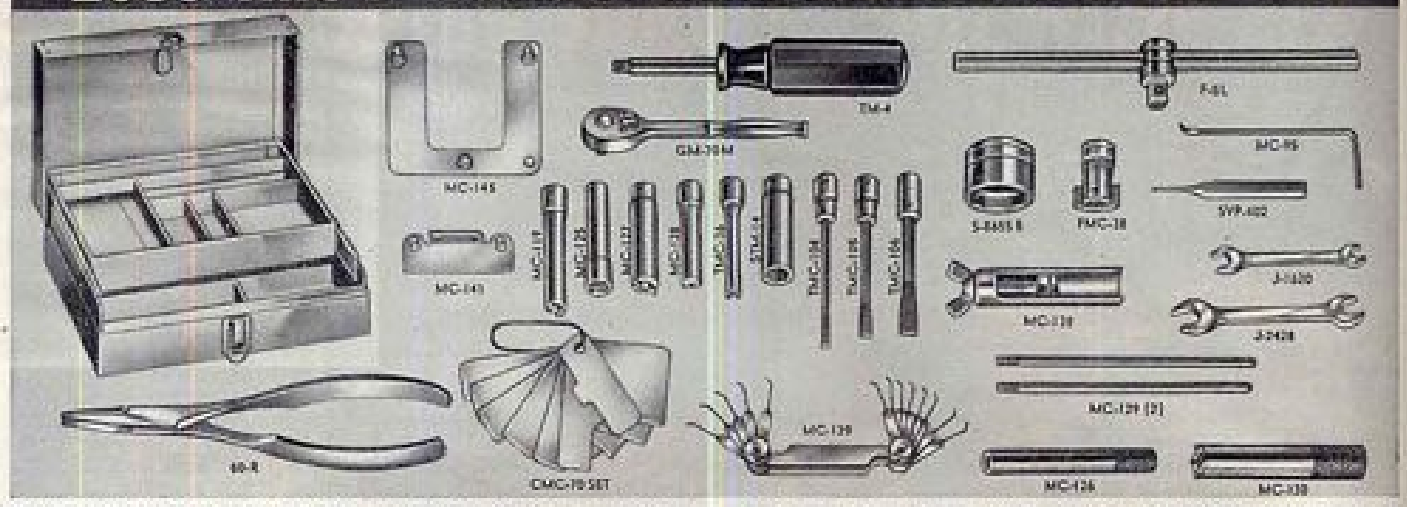
138-TM-8 MIDGET UTILITY SET—38 Tools in Convenient Metal Box

138-TM-8 Midget Utility Set. Midget handles and sockets together with special screw driving attachments. This is a real utility set of midget wrenches for garage and service station, aircraft instrument assembly and service, and all other businesses where tiny socket wrenches are needed for product assembly or maintenance. Each tool is proportioned and built to Snap-on's high standards of design and quality with wrench openings precision machined to insure accurate fitting to tiny nuts and bolts. Every one of these tools is scientifically heat treated to impart long wearing qualities . . . polished chromium plate finish.

Set consists of the following tools: GM-70M Ratchet, TM-5 Sliding Bar, TM-10D Nut Spinner, TM-4S Plastic Grip Handle, TMU-8 Universal Joint, TM-2, TMX-4 and TM-60 Extension Bars, TM-61 Flextension, 9 Standard Single Hex Sockets TM-6 to TM-16, 8 Extra Deep Single Hex Sockets, STM-6 to STM-14, 3 Double Square Sockets, TM-408, TM-410 and TM-412, 4 Standard Screw Driver Sockets TM-82, TMC-104, TMC-105 and TMC-106, 2 Phillips Screw Drivers TMP-12 and TMP-22, 3 Clutch-type Screw Drivers TM-27, TM-30 and TM-31. All these in the KR-275 red enameled metal box.

138-TM Midget Set. Above set of tools without the box.

2035-TMC-B HOLLEY CARBURETOR SERVICE SET



2035-TMC-B Holley Carburetor Set. This set of tools has been assembled in cooperation with the Holley Carburetor Company to provide a complete set of the necessary tools for servicing their products. Their carburetors are now standard equipment on Ford passenger cars and trucks from 1938 thru the present models, Mercury and Lincoln cars and some International, White, Mack and GMC trucks. The set includes all the special tools and standard tools shown above and described below and KR-65B Midget Tool Chest.

2035-TMC Set. Same as above but without tool chest.

Holley Carburetor Tools

CMC-70 Float Level Gauge. Includes the 7 sizes and holder listed below for checking the float level setting on Holley carburetors.

MC-131 1 1/32" Gauge	MC-135 1 11/32" Gauge
MC-132 1 3/32" Gauge	MC-136 1 3/8" Gauge
MC-133 1 5/32" Gauge	MC-137 7/32" Gauge
MC-134 1 9/16" Gauge	MC-59 Ring Holder

FMC-38 Inlet Valve Plug Screwdriver. Fits the slotted inlet valve plug. 3/8" sq. drive.

★MC-95 Carburetor Retainer Ring Puller. Removes the intake check ball retainer ring on Carter carburetors.

★MC-119 Pronged Socket. For economizer piston screw in Holley carburetors. 2 1/4" long. O.D. 27/64". Prongs .032" x .058" x 9/64". 1/4" square drive.

★MC-125 Fuel Inlet Valve Seat Remover. The recessed blade allows this tool to fit over the top of the inlet valve preventing it from slipping off and damaging the threads. 3/4" square drive.

MC-126 Economizer Valve Replacer. Fits over the economizer valve to drive it into position with a press fit. The hollow shaft prevents damage to the valve assembly.

★MC-127 Large Power Valve Remover. This pronged socket has a tapered center with a hollow point to receive the valve stem of the power valve. This automatically centers the tool in the slots and prevents slippage which could result in damage to the valve. Outside diameter 1/2". 1/4" square drive.

★MC-128 Small Power Valve Remover. Same construction as the MC-127 above but smaller. Outside diameter 5/16". 1/4" sq. drive.

MC-129 Line-up Rod. Two required. These rods are necessary to hold the metal and fiber gaskets in proper position when assembling the top cover bowl of 885FFC series carburetors.

MC-130 Economizer Valve Staking Tool. After the economizer valve has been pressed into position this tool is used to anchor it. The hollow shaft slips over the valve and the four points crimp the metal against it to prevent loosening.

MC-138 Economizer Valve Puller. Because the economizer valve is a staked, press fit it is difficult to remove when replacement is necessary. This puller fits over the valve and rests against the carburetor housing. With the valve hooked in the slot of the puller, a few turns of the thumbscrew will remove it.

MC-139 Feeler Gauge. This wire gauge is used to measure the orifice reveal opening. Ends are bent for easy application. Contains .014", .016", .020", .022", .030", .034", .035", .037", .040", .042", .052", .055" and .057" wires.

MC-141 Centri-Vac Rod Holder. This unit is necessary to pre-stress the diaphragm on Holley carburetors with Centri-Vac governor control. After the diaphragm is in position the cover is placed over it and the screws inserted. The MC-141 is then slipped over the rod and snapped into the housing. The cover screws are then tightened before the tool is removed. Works on either right or left hand models.

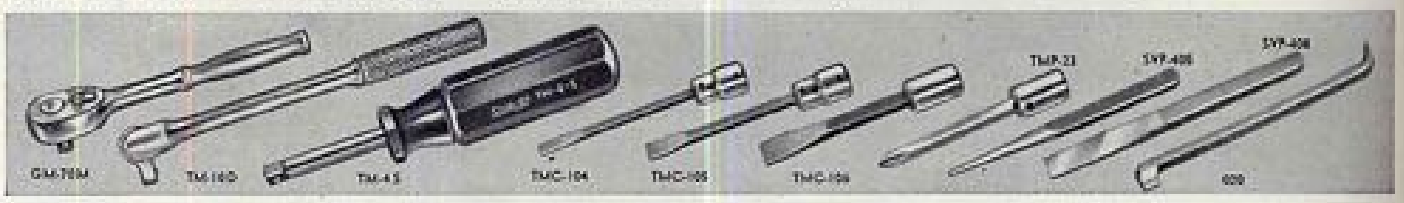
MC-145 Float Level Gauge. For checking the float level setting on Holley carburetors used on 1952 six cylinder Ford.

S-86558 Ford Carburetor Socket. A 1" octagon socket for servicing the economizer valve assembly used on Holley AA-1 carburetor. This model carburetor is found on 1951-51 Ford cars and trucks, 1937-48 12-cylinder Lincolns, and 1939-48 Mercurys. Outside diameter 1 3/8". Fits 3/4" square drive handles.

★TMC-36A Socket for Holley Carburetor Jets. Two prongs engage the slots in the jet while a pilot centers the tool.

Standard Tools Included in Above Holley Set

Stock No.	Description	Page
TM-4	Plastic Handle	36
GM-70M	Midget Ratchet	36
F-5L	Sliding Bar	33
STM-14	7/16" Deep Hex Socket	38
TMC-104	5/16" Screwdriver Attachment	37
TMC-105	1/4" Screwdriver Attachment	37
TMC-106	3/8" Screwdriver Attachment	37
J-1620	1/2" and 9/16" Short Open End	49
J-2428	3/4" and 7/16" Short Open End	49
60R	Duckbill Pliers	56
SVP-402	Punch	50
KR-65B	Midget Tool Chest	7

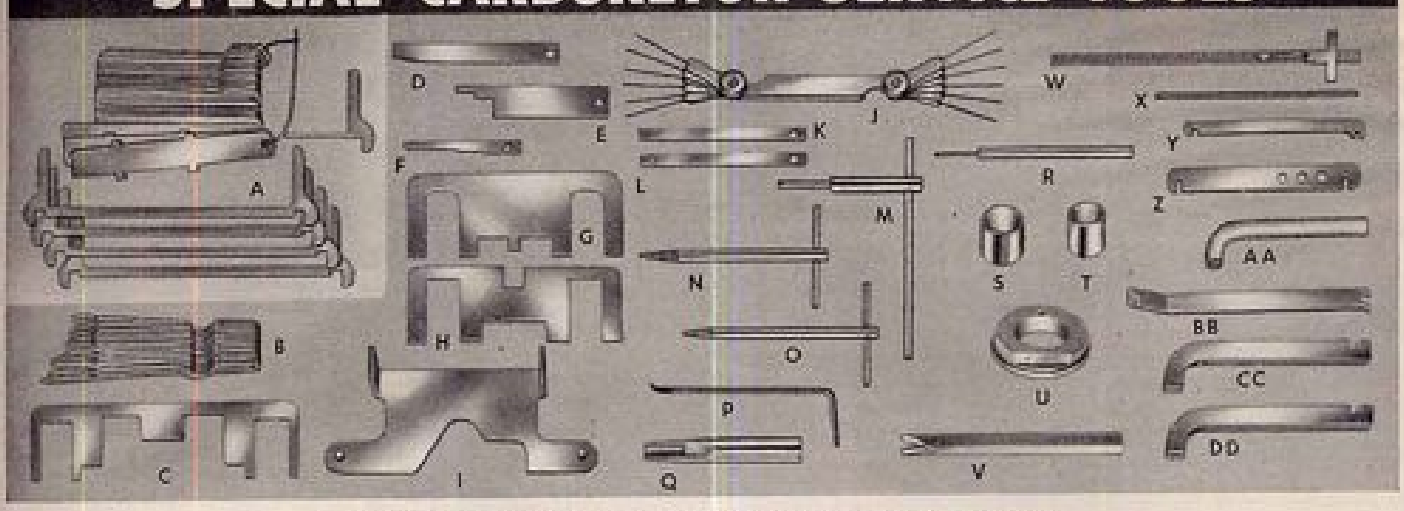


2055-TMC-B GENERAL CARBURETOR SERVICE SET—1/4" SQUARE DRIVE

Consists of all special tools and sockets listed on page 39 and the standard tools shown above as listed below

Stock No.	Description	See Page	Stock No.	Description	See Page	Stock No.	Description	See Page
GM-10M	Midget Ratchet	36	MC-89	Bending Tool	39	MC-151	Float Level Gauge	39
TM-10D	Midget Nut Spinner	37	MC-95A	Wire Gauge Set	39	MC-152	Unloader Gauge	39
TM-4S	Plastic Grip Handle	36	MC-94	Rivet Extractor	39	MC-153	Tube Inserter Tool	39
TMC-104	Midget Screw Driver	37	MC-95	Retainer Ring Puller	39	STM-12	5/16" Deep Hex Socket	39
TMC-105	Midget Screw Driver	37	MC-96	.015" Feeler Gauge	39	STM-14	7/16" Deep Hex Socket	39
TMC-106	Midget Screw Driver	37	MC-97	.009" Feeler Gauge	39	TMC-9	5/16" Hex Carburetor Socket	39
TMP-23	Phillips Screw Driver	37	MC-99	Pump Loading Cylinder	39	TMC-10	7/16" Hex Carburetor Socket	39
SVP-405	Midget Starter Punch	39	MC-103A	6" Depth Gauge	39	TMC-13	11/32" Hex Carburetor Socket	39
SVP-408	Midget Flat Chisel	39	MC-118	1/4" Float Level Gauge	39	TMC-15	11/32" Check Valve Socket	39
620	Offset Screw Driver	53	MC-120	Float Level Gauge	39	TMC-16	1/2" Hex Carburetor Socket	39
CMC-110	Metering Rod Gauge Set	39	MC-121	Bending Tool	39	TMC-37	Screw Driver Socket	39
CMC-300	Float Level Set	39	MC-122	Float Level Gauge	39	TMC-38	Screw Driver Socket	39
MC-35	Ring Inserter Socket	39	MC-123	Vacuum Piston Gauge	39	TMC-42	Small Special Oval Socket	39
MC-48	Economizer Valve Wrench	39	MC-124A	Bending Tool	39	TMC-43	Pronged Carburetor Socket	39
MC-49A	Large Jet Puller	39	MC-144	Float and Unloader Gauge	39	TMC-44	Pronged Socket	39
MC-50A	Small Jet Puller	39	MC-146	Loading Cylinder Gauge	39	TMC-45	Pronged Socket	39
MC-51	Main Vent Puller	39	MC-148	Heat Tube Seal Punch	39	TMC-46	Large Special Oval Socket	39
MC-87	Bending Tool	39	MC-149	Float Level Gauge	39	KR-65B	Midget Tool Chest	7
MC-88	Bending Tool	39	MC-150	Choke and Unloader Gauge	39			

SPECIAL CARBURETOR SERVICE TOOLS



Description of Special Carburetor Tools Shown Above

A CMC-300 Carburetor Float Level and Unloader Set. Contains 30 gauges listed below for checking the float level and the unloader setting on Carter carburetors.

Float and Unloader Gauges		Float Gauges	
MC-60	5/32"	MC-71	3/16"
MC-61	3/8"	MC-72	5/8"
MC-62	3/64"	MC-73	3/16"
MC-63	5/32"	MC-74	11/64"
MC-64	11/64"	MC-75	3/8"
MC-65	3/16"	MC-76	3/16"
MC-66	11/64"	MC-77	5/8"
MC-67	3/32"	MC-78	29/32"
MC-68	11/64"	MC-79	11/16"
MC-69	1/4"	MC-80	29/32"
MC-70	3/32"	MC-81	3/4"

MC-82	3/8"		
MC-83	1/8" & 1/16"		
MC-84	3/64" & 3/32"		
MC-85	3/16"		
MC-86	3/64"		
MC-116	3/32"		
MC-117	1/8"		
MC-143	15/64"		

B ★CMC-110 Metering Rod Gauge Set. Essential for setting the metering rod position for proper operation. Contains two gauges each of MC-107 and MC-109 and one each of all others listed below.

★MC-107	2.250" long	★MC-112	2.715" long
★MC-108	2.312" long	★MC-113	2.740" long
★MC-109	2.330" long	★MC-114	2.765" long
★MC-110	2.440" long	★MC-115	2.940" long
★MC-111	2.468" long		

C ★MC-149 Float Level Gauge. For Rochester carburetors on 1951 Oldsmobile and Cadillac.

D ★MC-144 Float and Unloader Gauge. For Carter carburetors on International trucks and tractors.

E MC-120 Gauge. For checking float level, choke and unloader settings on Rochester carburetors on Olds 88 & 98 Rocket. 3" long.

F ★MC-150 Gauge. For making choke and unloader adjustments on Rochester carburetors on 1951 Oldsmobile cars.

G MC-122 Gauge. Check level of both floats at same time on Rochester carburetors on 1950-51 Chevrolets. 4 5/32" long.

H ★MC-151 Float Level and Drop Gauge. For Rochester carburetors on 1951 Oldsmobile.

I MC-118 Float Level Gauge. For AA series Stromberg carburetor.

J ★MC-90A Carburetor Wire Gauge Set. Used to crack the throttle for anti-percolator and fast idle adjustments. Contains all sizes listed below MC-90-10 to MC-90-54:

★MC-90-10	.010" Wire	★MC-90-26	.026" Wire
★MC-90-12	.012" Wire	★MC-90-30	.030" Wire
★MC-90-15	.015" Wire	★MC-90-40	.040" Wire
★MC-90-18	.018" Wire	★MC-90-45	.045" Wire
★MC-90-20	.020" Wire	★MC-90-53	.053" Wire
★MC-90-23	.023" Wire	★MC-90-54	.054" Wire

K ★MC-96 Feeler Gauge. .015" x 1/4" x 3 1/4" flat feeler gauge for anti-percolator and unloader adjustments.

L ★MC-97 Feeler Gauge. .010" x 1/4" x 3 1/4" flat feeler gauge for anti-percolator and unloader adjustments.

M MC-51 Puller and Inserter Tool. For main vent tube on the Carter "B & B" carburetor used on Chrysler, Nash and Studebaker.

N ★MC-50A Small Jet Puller. Pulling end tapers from 1/16" to 1/8" diameter.

O ★MC-49A Large Jet Puller. Pulling end tapers from 3/64" to 1/4" diameter.

P ★MC-95 Carburetor Retainer Ring Puller. Removes the intake check ball retainer ring.

Q ★MC-148 Heat Suction Tube Seal Punch. Used on Rochester carburetor on Oldsmobile and Pontiac cars.

R ★MC-152 Unloader Gauge. For Rochester carburetors on 1951 6-cylinder Pontiac cars.

S ★MC-99 Pump Loading Cylinder. Operates like a piston inserter for inserting pump assembly into cylinder.

T ★MC-146 Loading Cylinder Gauge. For Carter carburetors on Chrysler and Hudson cars.

U MC-123 Gauge. For setting vacuum pistons on Stromberg AAV-16 and AAV-26 carburetors in Buicks through 1950.

V ★MC-94 Rivet Extractor. Used to drive out rivets or port plugs when reconditioning of the carburetor is necessary.

W ★MC-103A Depth Gauge. Calibrated in 64ths to measure carburetor pump travel. Gauge is 6" long, 1/4" wide, .032" thick.

X ★MC-153 Inserter Tool. For inserting main Vent Tubes in carburetors used on Chrysler and Nash cars.

Y ★MC-87 Bending Tool. For metering rod and anti percolator adjustments.

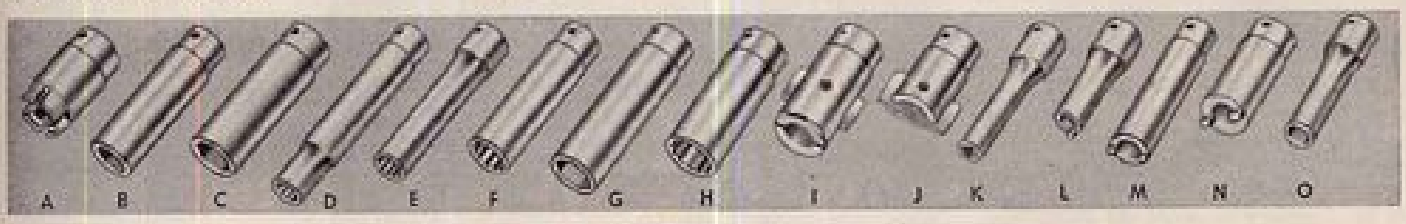
Z ★MC-88 Bending Tool. For bending lip on fast idle connector link and for adjusting metering rod setting. Holes can be used for linkage adjustments.

AA ★MC-124A Bending Tool. For unloader adjustment on Carter carburetors in Chevy, Packard and Studebaker. 3 3/16" long.

BB MC-48 Economizer Valve Wrench.

CC ★MC-89 Bending Tool. For bending cam to make unloader settings. Also used to make linkage adjustments.

DD ★MC-121 Bending Tool. For choke and unloader adjustment on Rochester carburetors in Olds 88 & 98 Rocket. 4" long.



SPECIAL CARBURETOR SOCKETS—All have 1/4" square drive

A MC-39 Small Ring Inserter Socket. For installing retainer ring in pump cylinder.

B STM-12 3/8" Deep Hexagon Socket. Outside diameter 9/16", 2" long.

C STM-14 7/16" Deep Hexagon Socket. Outside diameter 5/8", 2" long.

D TMC-9 9/32" Double Hexagon Socket. Nose diameter 1 5/32", 2 5/8" overall length.

E TMC-10 5/16" Double Hexagon Socket. Nose diameter is 7/64", 2 1/4" overall length.

F TMC-13 13/32" Double Hexagon Socket. Outside diameter is 9/16", 2" overall length.

G TMC-15 15/32" Single Broached Hexagon Socket. Designed expressly for turning the check valve in Stromberg carburetors. The hexagon opening is especially designed to fit this valve and the tool should not be used for turning standard hex nuts. Outside diameter is 29/64", length is 2 5/16".

H TMC-16 1/2" Double Hexagon Socket. Outside diameter is 15/64", 1 3/4" overall length.

I TMC-37 Screw Driver Socket. For type "D" Stromberg piston sleeve.

J TMC-38 Screw Driver Socket. For Stromberg main discharge jet.

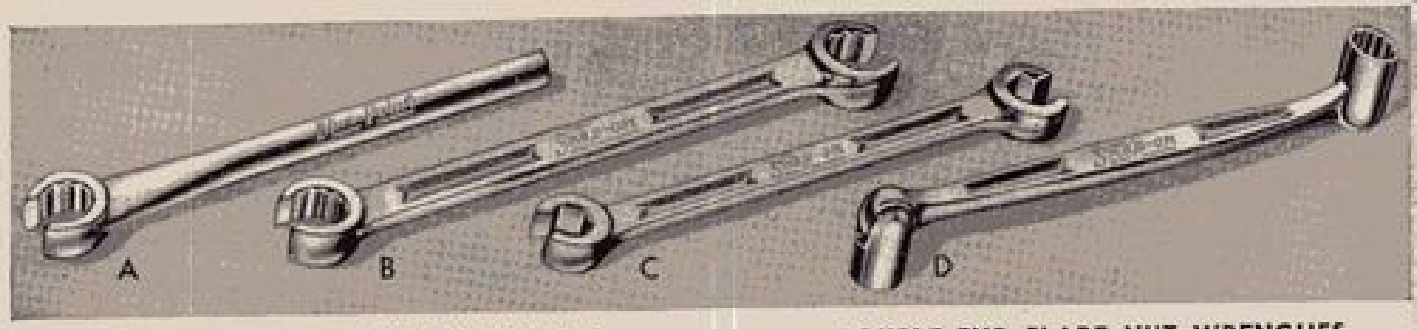
K TMC-42 Small Oval Socket. Designed to fit small jets on dual Stromberg carburetors.

L ★TMC-43 Pronged Socket. Prongs are 1/16" deep, .032" wide, 3/16" long. Socket is 1 1/2" long, 5/8" outside diameter.

M ★TMC-44 Pronged Socket. Prongs are 1/16" deep, .032" wide, 3/64" long. Socket is 2" long, 1/2" outside diameter.

N ★TMC-45 Pronged Socket. Prongs are 3/64" deep, .037" wide, 1/32" long. Socket length is 1 1/2" and outside diameter 5/8".

O TMC-46 Large Oval Socket. Designed to fit the jet on single throat Stromberg carburetors on all cars except Ford.

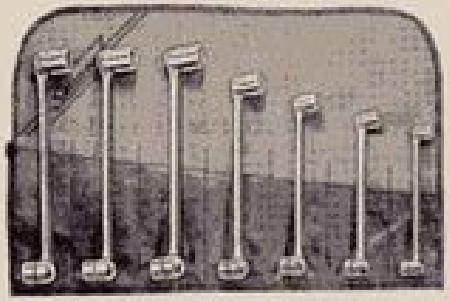


SINGLE END FLARE NUT WRENCHES

(A) A series of open wall Boxockets especially designed to operate over tubing and pipes in very close places. Tightening brass tube flare nuts can be done quickly and without danger of damage to the soft metal when these wrenches are used. The double hexagon broached opening is in line with the handle to assure jaws of equal strength and grips the nut on five sides to distribute the turning strain—cannot slip and chew the nut. Chrome plated.

Wrench Size	Stock No.	Head Diam.	Head Depth	Overall Length	Wrench Size	Stock No.	Head Diam.	Head Depth	Overall Length
1/4"	RX-12	7/16"	5/16"	5 1/2"	1"	RX-32	1 9/16"	15/16"	7 15/16"
5/16"	RX-14	9/16"	11/32"	6 1/8"	1 1/16"	RX-34	1 9/16"	3/4"	8 1/2"
3/8"	RX-16	9/16"	7/16"	6 1/4"	1 1/8"	RX-36	1 3/4"	3/4"	8 1/2"
7/16"	RX-18	11/16"	1/2"	6 3/4"	1 1/4"	RX-38	1 7/16"	15/16"	8 15/16"
1/2"	RX-20	11/16"	9/16"	7 1/4"	1 3/8"	RX-40	1 9/16"	15/16"	9"
9/16"	RX-22	13/16"	5/8"	7 1/4"	1 7/16"	RX-42	2"	1"	10"
5/8"	RX-24	15/16"	5/8"	7 1/4"	1 1/2"	RX-44	2 1/4"	15/16"	10"
11/16"	RX-26	1 1/16"	5/8"	7 1/4"	1 5/8"	RX-46	2 5/16"	1 1/16"	10 1/2"
3/4"	RX-28	1 1/16"	5/8"	7 1/4"	1 3/4"	RX-52	2 5/16"	1 1/16"	10 1/2"
7/8"	RX-30	1 1/4"	3/4"	7 1/4"	1 15/16"	RX-62	2 5/16"	1 1/16"	12 3/4"

FLEX-HEAD WRENCH SET



FH-607-K Set. Contains the seven Flex-Head Wrenches listed at the right, complete in the C-74 leatherette kit bag.

FH-607 Set. Above set but tools only.

DOUBLE END FLARE NUT WRENCHES

These double ended flare nut wrenches have the heads set at a 10° angle to the handle to provide ample knuckle clearance yet maintain direct pulling leverage. The flat handles with their rounded edges provide a firm grip. Both wrench openings are in line with the handle to give equal strength to both jaws. The four smaller wrenches are single hex while the RXV-2024 and RXV-2832 are double hex.

Wrench Size	Stock No.	Head Diameter	Head Depth	Overall Length
3/16" & 5/32"	★ RXV-1012S	29/64" & 45/64"	1/4" & 3/32"	5 1/16"
3/8" & 7/16"	★ RXV-1214S	45/64" & 31/64"	3/32" & 5/16"	6 1/4"
3/8" & 15/32"	★ RXV-1215S	31/64" & 7/8"	13/32" & 5/16"	6 1/4"
1/2" & 9/16"	★ RXV-1618S	5/8" & 15/32"	5/16" & 3/8"	7 1/8"
9/16" & 3/4"	★ RXV-2024	1 5/16" & 1 13/64"	7/16" & 1/2"	8 15/16"
5/8" & 1"	★ RXV-2832	1 15/32" & 1 19/32"	9/16" & 5/8"	9 15/16"

FLEX-HEAD WRENCH

(B) Extremely handy wrenches for universal flange bolts, pan screws that are under cross members, and a hundred and one similar jobs. With the handle in a vertical position you can spin the nut on and then flex over to a horizontal position for final tightening. FH-1214AS is single hex and the other sizes are double hex. Full polished chrome finish.

Wrench Size	Stock No.	Head Diameters	Overall Length
3/8" & 7/16"	FH-1214AS	3/8" & 3/8"	6 1/4"
7/16" & 1/2"	FH-1416	3/8" & 29/32"	6 7/8"
1/2" & 9/16"	FH-1618	61/64" & 29/32"	7 15/16"
9/16" & 5/8"	FH-1820A	29/32" & 7/8"	8 9/16"
5/8" & 3/4"	FH-2024A	7/8" & 1"	9 1/16"
11/16" & 13/16"	FH-2226	1" & 1 1/8"	10 3/16"
3/4" & 7/8"	FH-2428	1 3/64" & 1 5/16"	10 3/16"

RATCHETING BOXOCKETS

When working space is limited you can speed up the job with these wrenches. Sturdy yet thin, they reach into extremely close spaces. Wrench openings are all double hex with the exception of the No. 74 which has single hex openings. Polished chrome finish.

RB-604A-K Set. Contains the Nos. 74, 75, 76 and 79 Ratcheting Boxockets listed below in the C-44A kit bag.

RB-604A Set. Above set but tools only.

Wrench Size	Stock No.	Thickness	Length
5/8" & 7/8"	74	3/8"	5 1/2"
1/2" & 9/16"	75	15/32"	6 13/16"
7/16" & 11/16"	76	15/32"	7 15/16"
5/8" & 3/4"	77	15/32"	7 15/16"
3/4" & 7/8"	79	1/2"	8 5/8"

HALF MOON BOXOCKETS

There are a great many occasions when you find it impossible to reach a nut or bolt with a socket or a straight-handle wrench. That's when you are glad you have these curved handle Boxockets . . . they reach around obstructions and enable you to service those hidden, tough-to-get-at nuts and complete the job easily and quickly.

CX-603 Set. Contains all three Half Moon Boxockets listed below.

Wrench Size	Stock No.	Handle Radius	Overall Length
3/16" & 1/4"	CX-1416	2 13/64"	5"
3/8" & 1/2"	CX-1820	2 7/8"	6 1/2"
5/8" & 3/4"	CX-2024	3 1/16"	7 1/2"

"MASTER" PADLOCKS

Strongest case construction—laminated under 300,000 lbs. pressure forming a case stronger than a solid steel block, highest grade brass cylinder, nickel-silver pin tumbler mechanism, super strength alloy steel shackle, heavy solid brass locking lever, cannot jar open.

No. 1 Master Lock 1 9/16" steel case. Chrome-nickel steel tapered shackle hardened to resist file, saw or cutter; diameter 5/16", vertical clearance 1 5/16", our best padlock.

No. 3 Master Lock 1 1/2" steel case. Chrome-nickel steel shackle hardened to resist file, saw or cutter; diameter 9/32", vertical clearance 5/8". A dependable high grade padlock.

No. 7 Master Lock 1 1/8" steel case. Manganese steel shackle, diameter 9/32". Vertical clearance 9/16". Smaller than the others but sturdily built for dependable service.

POWERFUL LEVERAGE

FOR TIGHTENING LARGE BOLTS

HEAVY DUTY BOXOCKETS IN STRAIGHT AND OFFSET TYPES

Redesigned to give even greater strength than our former line of Heavy Duty Boxockets, these tools give you safe, powerful leverage to turn the tightest of those larger nuts and bolts. The Boxocket openings completely encircle the nut, eliminating the danger of the wrench slipping, so that the operator can "lay into the job" with complete confidence in his own safety.

Compact Boxocket heads reach into places where other types of wrench equipment cannot possibly be used, and the double hexagon broaching gives the advantage of a short turning arc where obstructions restrict free swinging [illegible] hexagon opening [illegible] sides and equally distributes the applied torque to the job, thus utilizing every inch of muscular leverage to the utmost advantage.

These forty-six Boxockets are used with the five tubular handles listed. Each wrench head has a handle stop and a locking button which engages a lock hole in the handle. Once the units are locked deliberate action is necessary to unlock the combination.

OFFSET TYPE								STRAIGHT TYPE	
Wrench Size	Stock No.		Height of Offset	Head Thick.	Head Diam.	Assem. Length from Bolt Center	For Handle No.	Stock No.	
11/16"	—		—	3/16"	1 3/4"	18 3/4"	15	130	
1"	—		—	3/16"	1 5/8"	18 3/4"	15	132	
1 1/16"	X-340		15/16"	5/8"	1 11/16"	21 3/4"	18	134	
1 1/8"	X-380		1"	3/4"	1 3/4"	21 3/4"	18	136	
1 3/16"	X-400		1 1/16"	15/16"	1 15/16"	21 3/4"	18	140	
1 5/16"	X-420		1 1/8"	7/8"	2"	29 1/2"	24	142	
1 3/8"	X-440		1 3/16"	7/8"	2 3/32"	29 1/2"	24	144	
1 7/16"	X-460		1 1/8"	15/16"	2 3/16"	29 1/2"	24	146	
1 1/2"	X-480		1 3/16"	15/16"	2 1/4"	29 1/2"	24	148	
1 9/16"	X-500		1 3/16"	1"	2 11/32"	29 1/2"	24	150	
1 5/8"	X-520		1 3/8"	1 1/32"	2 7/16"	29 1/2"	24	152	
1 11/16"	X-540		1 1/16"	1 1/16"	2 3/4"	35 3/4"	30	154	
1 3/4"	X-560		1 1/2"	1 3/32"	2 15/32"	35 3/4"	30	156	
1 13/16"	X-580		1 3/16"	1 1/8"	2 11/16"	35 3/4"	30	158	
1 7/8"	X-600		1 5/8"	1 5/32"	2 3/4"	35 3/4"	30	160	
2"	X-640		1 3/4"	1 1/4"	2 15/16"	35 3/4"	30	164	
2 1/16"	X-700		1 7/8"	1 5/16"	3 3/16"	35 3/4"	30	170	
2 1/4"	*X-720		1 7/8"	1 11/32"	3 1/4"	42"		*172	
2 5/16"	X-760		2"	1 3/8"	3 7/16"	42"	36	176	
2 3/8"	X-820		2 1/4"	1 1/2"	3 11/16"	42"	36	182	
2 5/8"	X-840		2 1/2"	1 1/2"	3 3/4"	42"	36	184	
2 3/4"	X-880		2 1/2"	1 5/8"	3 15/16"	42"	36	188	
2 15/16"	X-940		2 5/8"	1 11/16"	4 3/16"	42"	36	194	
3 1/8"	X-1000		2 5/8"	1 3/4"	4 7/16"	42"	36	1100	

*No. X-720 Requires the No. 30 handle and No. 172 the No. 36 handle.

Tubular Handles

These handles are made of the finest seamless steel tubing to provide the utmost strength and safety necessary for those heavy duty nut turning operations.

No.	Length	O. D.	I. D.
15	15"	1 3/16"	5/8"
18	18"	7/8"	11/16"
24	24"	1 1/16"	7/8"
30	30"	1 5/16"	1"
36	36"	1 5/16"	1 1/8"

SLEDGE-TYPE BOXOCKET WRENCHES

These powerful wrenches are the answer to big bolt tightening problems in power plants, engineering construction work, oil fields, railroads, marine shops, etc. Hammer blow shock is distributed over the full depth of the wrench walls. These boxockets have double broached hexagon openings with extra thick walls to withstand the punishment of the sledge blows. To clear obstructions or reach "buried" nuts, certain of these wrenches can be used with companion single broached hexagon sockets listed below.

Socket Sizes and Specifications

Stock No.	Wrench Size	Head O.D.	Lgth.
H-640	2"	3 1/16"	3 1/4"
H-760	2 3/16"	3 1/2"	4 1/4"
H-820	2 5/16"	3 1/2"	4 1/2"
H-880	2 1/2"	4 1/2"	5"
H-940	2 11/16"	4 1/2"	5 1/2"
H-1000	3 1/8"	4 1/2"	5 1/2"
H-1120	3 1/2"	5 1/2"	6"
H-1240	3 7/8"	5 1/2"	6 1/2"
H-1360	4 1/4"	6 1/2"	7"
H-1480	4 5/8"	6 1/2"	7 1/2"

Special sizes of these sockets made to order: Prices of all sizes on application.

Boxocket Sizes and Specifications

Stock No.	Wrench Size	Wrench Head Thickness	Wrench Head Diameter	Length	Stock No.	Wrench Size	Wrench Head Thickness	Wrench Head Diameter	Length
DX-146	1 5/16"	1"	2 1/4"	7 1/4"	DX-188	2 1/2"	1 1/2"	4 1/2"	14 1/2"
DX-148	1 3/8"	1"	2 3/8"	7 3/8"	DX-190	2 5/16"	1 1/2"	4 1/2"	14 1/2"
DX-152	1 7/16"	1 1/8"	2 3/8"	7 7/16"	DX-194	2 11/16"	2"	4 1/2"	14 1/2"
DX-154	1 1/2"	1 1/8"	2 3/8"	7 7/16"	DX-196	2"	2"	4 1/2"	14 1/2"
DX-158	1 9/16"	1 1/4"	2 1/2"	7 11/16"	DX-1100	3 1/8"	2 1/2"	4 1/2"	17 1/2"
DX-160	1 5/8"	1 1/4"	2 5/8"	8 1/16"	DX-1108	3 7/16"	2 1/2"	4 1/2"	17 1/2"
DX-164	1 3/4"	1 1/4"	2 5/8"	11 1/16"	DX-1112	3 1/2"	2 1/2"	5 1/2"	17 1/2"
DX-166	1 7/8"	1 1/2"	3"	11 1/16"	DX-1120	3 7/8"	2 1/2"	5 1/2"	17 1/2"
DX-170	2 1/16"	1 1/2"	3 1/16"	11 1/16"	DX-1124	3 15/16"	2 1/2"	5 1/2"	17 1/2"
DX-172	2 1/8"	1 1/2"	3 1/16"	11 1/16"	DX-1132	4 3/16"	2 1/2"	5 1/2"	17 1/2"
DX-176	2 3/16"	1 1/2"	3 1/16"	11 1/16"	DX-1136	4 7/16"	2 1/2"	6"	18"
DX-178	2 1/4"	1 1/2"	3 1/16"	11 1/16"	DX-1144	4 1/2"	2 1/2"	6 1/2"	19 1/2"
DX-182	2 3/8"	1 1/2"	3 1/16"	12 1/16"	DX-1148	4 3/4"	2 1/2"	6 1/2"	19 1/2"
DX-184	2 1/2"	1 1/2"	3 1/16"	12 1/16"					

DOUBLE OFFSET BOXOCKETS

ADJUSTABLE FOR EVERY BOXOCKET JOB

Boxockets speed the work when sockets cannot be used . . . slip in recesses and over protruding bolts as shown above.

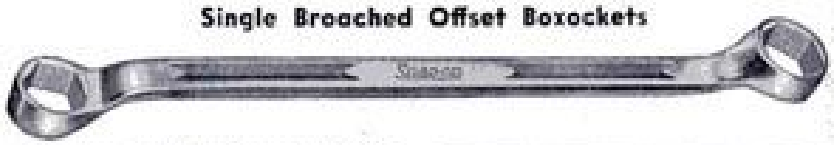
Powerful Leverage . . . Strength . . . Balanced Design . . . Safety . . . Speed . . . Convenience

1. Deeply offset heads are placed at a slight angle to the handle—this gives you clearance to reach countersunk nuts, cylinder head bolts, etc.—also gives knuckle saving clearance over obstructions.
2. The "box" or "ring-type" opening gives you the strongest, safest wrench you can use. The opening cannot spread, and the twisting leverage is applied equally to all corners of the nut.
3. Double hex openings are machined to strict tolerances to fit nuts and bolts snugly without slipping—take a new grip with only a 30° handle swing.
4. Thin side walls permit wrench heads to work in very tight places.
5. Chamfered openings help guide the wrench onto the nut or bolt head.
6. There are two different wrench openings on each handle.
7. Handles are flat with rounded edges to give a firm, comfortable grip.
8. Long handles provide ample direct-line leverage for breaking tough nuts loose or pulling them tight.
9. Complete range of sizes from ⅝" to 1⅝".
10. Snap-on Boxockets are hammer forged from finest steel, heat treated to exacting standards of toughness and hardness for long, durable service.
11. They are beauties, too, with a full polished chrome finish set off by the satin-finish recesses in the handles.
12. A complete set of these wrenches will give you greater working convenience and real wrench adaptability.

Double Broached Offset Boxockets

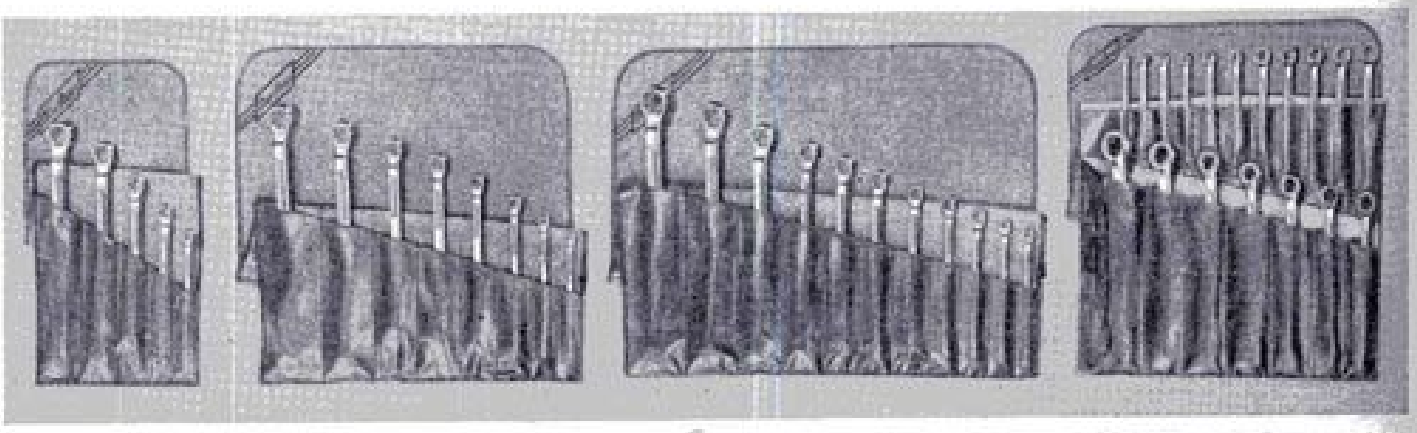
Wrench Size in Inches	Stock No.	Dia. of Heads in Inches	Overall Length
5/8 & 7/16	XV-1214	9/16 & 41/64	7 13/16"
7/16 & 1/2	XV-1416	41/64 & 47/64	8 1/8"
1/2 & 9/16	XV-1618	47/64 & 13/16	8 25/32"
9/16 & 5/8	XV-1820	13/16 & 29/32	9 29/32"
19/32 & 11/16	XV-1922	13/16 & 1	9 31/32"
5/8 & 11/16	XV-2022	29/32 & 1	9 31/32"
5/8 & 3/4	XV-2024	29/32 & 1 5/64	10"
11/16 & 13/16	XV-2226	29/64 & 1 11/64	10 1/2"
3/4 & 7/8	XV-2428	1 3/64 & 1 3/8	11"
25/32 & 15/16	XV-2526	1 3/8 & 1 3/64	11"
7/8 & 15/16	XV-2830	1 3/8 & 1 11/32	13"
15/16 & 1	XV-3032	1 11/32 & 1 7/16	14"
1 & 1 1/8	XV-3236	1 7/16 & 1 39/64	15"
1 1/16 & 1 1/4	XV-3436	1 39/64 & 1 39/64	15"
1 1/16 & 1 1/4	XV-3440	1 39/64 & 1 31/32	16"
1 3/16 & 1 3/16	XV-3842	1 45/64 & 1 7/8	17"
1 1/4 & 1 3/8	XV-4044	1 55/32 & 1 31/32	18"
1 3/8 & 1 1/2	XV-4448	1 31/32 & 2 3/64	19"
1 7/16 & 1 5/8	XV-4652	2 3/64 & 2 5/16	21"

Single Broached Offset Boxockets



Because these single hex Boxockets take a larger grip on all six sides of the nut than do double hex Boxockets they are extremely useful for turning nuts and bolts which are undersized, or are rusted on, or have badly chewed up corners. They are also good for turning Parker-Kalon or other self tapping screws.

Wrench Size in Inches	Stock No.	Dia. of Heads in Inches	Overall Length
5/8 & 7/16	XV-1214S	9/16 & 41/64	7 13/16"
7/16 & 1/2	XV-1416S	41/64 & 47/64	8 1/8"
1/2 & 9/16	XV-1618S	47/64 & 13/16	8 25/32"
9/16 & 5/8	XV-1820S	13/16 & 29/32	9 29/32"



5 Wrench Set

XV-605-K Offset Boxocket Set. Contains 5 wrenches with a range ⅝" to 1": XV-1214, XV-1618, XV-2022, XV-2428, XV-3032 in C-53A kit bag.

XV-605 Set. Tools only.

8 Wrench Set

XV-608-K Offset Boxocket Set. This set contains the following 8 wrenches with range from ⅝" to 1⅛"—XV-1214, XV-1618, XV-1922, XV-2024, XV-2526, XV-2830, XV-3236, XV-3440 in C-83A leatherette kit bag. Sixteen wrench sizes without any duplication.

XV-608 Set. Tools only.

11 Wrench Set

XV-611-K Offset Boxocket Set. Consists of the following 11 wrenches with a range from ⅝" to 1¼"—XV-1214, XV-1416, XV-1618, XV-1820, XV-1922, XV-2024, XV-2526, XV-2428, XV-3032, XV-3236, XV-3440, in C-113A kit bag. Twenty-two wrench sizes with six popular sizes duplicated.

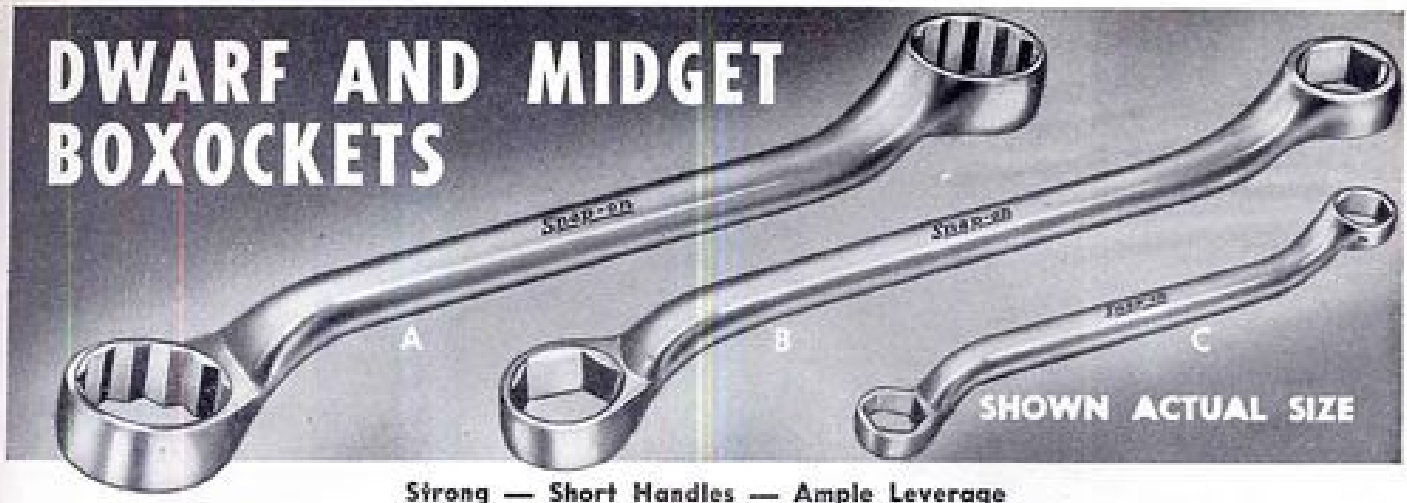
XV-611 Set. Tools only.

18 Wrench Set

XV-618-K Offset Boxocket Set. This set contains 18 wrenches with a range of ⅝" to 1⅝" in C-181A leatherette kit bag—XV-1214, XV-1416, XV-1618, XV-1820, XV-1922, XV-2022, XV-2024, XV-2226, XV-2428, XV-2526, XV-2830, XV-3032, XV-3236, XV-3440, XV-3842, XV-4044, XV-4448, XV-4652. Ideal for industrial maintenance departments, etc.

XV-618 Set. Tools only.

DWARF AND MIDGET BOXOCKETS



Strong — Short Handles — Ample Leverage
Chamfered Openings — Accurate Broaching

DWARF DOUBLE OFFSET BOXOCKETS

One of the most popular wrenches we have ever designed . . . handles are short enough for easy work in close places, yet give ample leverage . . . both heads are offset to clear nearby bolt heads or other obstructions . . . each tool has two wrench sizes. Accurate broaching held to close tolerances assures you of a perfect fit on nuts or bolt heads. Full polished chrome finish. These wrenches are forged from finest alloy steel, heat treated under the most modern methods to give toughness and hardness in the best combination for long satisfactory service. This is your guarantee of the finest tools of their kind ever made. Ideally suited for all close quarter jobs such as manifolds, starter, generator, water pumps, distributor mountings, universal joints, etc.

Ⓐ DOUBLE HEX SERIES

Popular favorites for many years amongst professional mechanics. Double broached hex openings permit use where handle movement is limited to 30°.

Wrench Size	Stock No.	Diameters of Heads	Overall Length
5/16" & 3/8"	XS-1012	7/16" & 11/16"	4 1/2"
3/8" & 7/16"	XS-1214	11/16" & 13/16"	4 11/16"
7/16" & 1/2"	XS-1416	13/16" & 15/16"	5 1/4"
1/2" & 9/16"	XS-1618	15/16" & 1 1/16"	5 1/2"
9/16" & 5/8"	XS-1820	1 1/16" & 1 5/16"	5 11/16"
5/8" & 3/4"	XS-2024	1 5/16" & 1 3/16"	6 1/16"
3/4" & 7/8"	XS-2228	1 3/16" & 1 7/16"	6 1/2"

Ⓑ SINGLE HEX SERIES

While the wrench openings are accurately broached to fit properly sized nuts, the additional bearing surface provided by the six sided openings make these wrenches especially useful for turning nuts or bolts that are chewed up, or are rusted on or undersized. Work with a 60° handle movement.

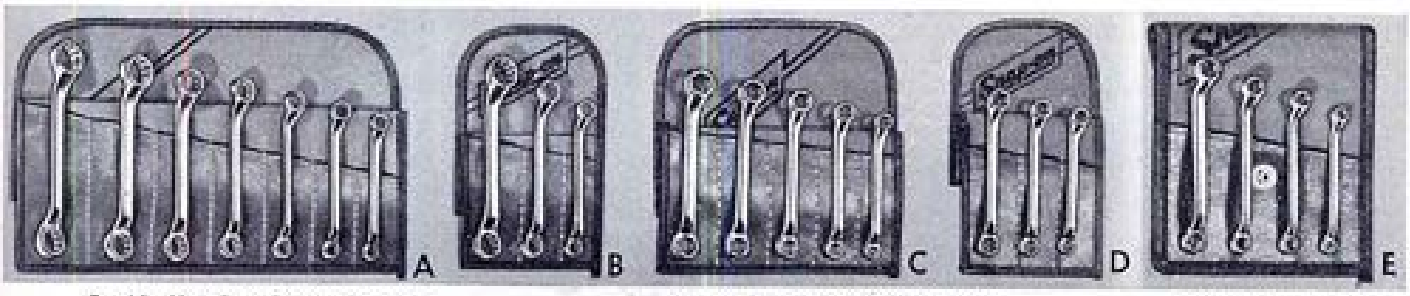
Wrench Size	Stock No.	Diameters of Heads	Overall Length
5/16" & 3/8"	XS-1012S	7/16" & 11/16"	4 1/2"
3/8" & 7/16"	XS-1214S	11/16" & 13/16"	4 11/16"
7/16" & 1/2"	XS-1416S	13/16" & 15/16"	5 1/4"
1/2" & 9/16"	XS-1618S	15/16" & 1 1/16"	5 1/2"
9/16" & 5/8"	XS-1820S	1 1/16" & 1 5/16"	5 11/16"

MIDGET OFFSET BOXOCKETS

Ⓒ Single Hexagon

These four Midget Double Offset Boxockets are especially designed for ignition and carburetor work, refrigeration, radio service, television, meter repair, and all work where tiny nuts must be turned. Both ends are offset to clear small obstructions and the single hexagon openings are broached accurately to fit these tiny nuts perfectly. Forged from high quality alloy steel, heat treated and tempered to the exact degree necessary to assure long service life. Full polished chrome finish.

Wrench Size	Stock No.	Diameters of Heads	Overall Length
5/16" & 11/16"	XI-1213	13/16" & 15/16"	3 11/16"
3/8" & 13/16"	XI-1415	15/16" & 15/16"	3 1/2"
7/16" & 15/16"	XI-1618	1 1/16" & 1 5/16"	3 5/8"
1/2" & 1 1/16"	XI-2122	1 5/16" & 1 3/16"	3 3/4"



Double Hex Dwarf Boxocket Sets

Ⓐ **XS-607-K Dwarf Boxocket Set.** Contains seven double hex Boxockets listed above in C-74 kit bag.
XS-607 SET. Above set without kit bag.

Ⓑ **XS-603-K Dwarf Boxocket Set.** Three Boxockets with sizes 5/16" to 1/2" as follows: XS-1214, XS-1618, and XS-2024 in C-33A kit bag.
XS-603 Set. Above set without kit bag.

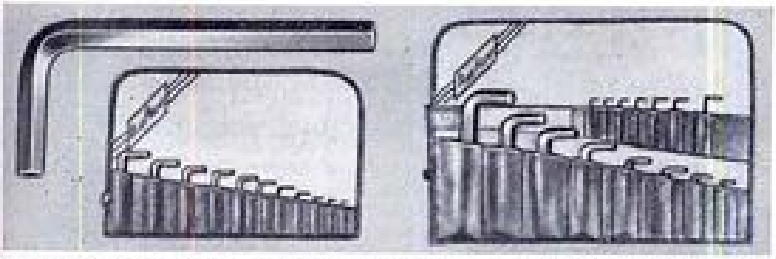
Single Hex Dwarf Boxocket Sets

Ⓒ **XS-605S-K Dwarf Boxocket Set.** Contains five single hex Boxockets listed above, in C-30A kit bag.
XS-605S Set. Above set without kit bag.

Ⓓ **XS-603SA-K Dwarf Boxocket Set.** Contains three single hex Boxockets: XS-1012S, XS-1416S and XS-1820S, in C-33A kit bag.
XS-603SA Set. Above set without kit bag.

Midget Boxocket Set

Ⓔ **XI-604-K Midget Boxocket Set.** Consists of the four Midget Boxockets listed above, complete in the C-11A kit bag. A handy set for shop or home.
XI-604 Set. Above set without the kit bag.



AW-1011-K Set consists of following 11 hex head wrenches: AW-1½, AW-2, AW-2½, AW-3, AW-4, AW-5, AW-6, AW-7, AW-8, AW-10, AW-12. Complete in kit bag C-112A.
AW-1011 Above Set, tools only.

BAR HEX HEAD WRENCHES

Equip yourself with a complete set of these Hex Head Wrenches and be prepared to do a fast job the next time you have to service any equipment using Allen Head Screws. These bar wrenches are accurately sized and made from fine steel properly heat treated and toughened to turn the tightest screws. Be wary of using makeshift methods . . . of ruining good screwdrivers by trying to wedge them into these screw openings—use the right tool for the job.

AW-1015-K Set consists of following 15 wrenches: AW-1½, AW-2, AW-2½, AW-3, AW-4, AW-5, AW-6, AW-7, AW-8, AW-10, AW-12, AW-16, AW-18, AW-20, AW-24. Complete in kit bag C-153A.
AW-1015 Above Set, tools only.

Stock No.	Size	Stock No.	Size	Stock No.	Size
★AW-1½	3/64"	AW-5	5/32"	AW-12	3/16"
AW-2	1/16"	AW-6	3/16"	AW-16	1/4"
AW-2½	5/64"	AW-7	7/32"	AW-18	9/64"
AW-3	3/32"	AW-8	1/4"	AW-20	5/16"
AW-4	1/8"	AW-10	5/16"	AW-24	3/8"

15° ANGLE BOXOCKET WRENCHES

POWERFUL LEVERAGE WITH SAFETY

Rusted-on, mud-coated parts . . . repairs and service on all kinds of machinery . . . It's all in a day's work to Snap-on's Blue-Point Boxockets. They are much stronger —and many times safer than open or adjustable wrenches. Boxockets completely encircle the nut, catch all six corners and distribute the pulling strain, combine socket wrench grip with direct leverage. Boxockets can't slip off the nut and can't spread on the nut.

The Double hexagon openings are carefully broached to close tolerances to assure a perfect fit on the nut or bolt head at all times . . . no need to worry about wrench slippage that can mean damaged parts or bruised knuckles. The heads are set at a 15° angle from the handle as shown in the diagram above, allowing the wrench to be used in many places where an offset would be awkward or impossible to operate. This 15° angle provides ample handle clearance from obstructions yet gives you the direct pulling leverage so necessary to break loose those rusted-on nuts. A light chamfer around each side of the wrench opening aids in guiding the wrench onto the nut or bolt. For greater adaptability, each Blue-Point Boxocket is designed with 2 different wrench sizes on each handle, and the complete series covers a range of sizes from 3/8" to 1 1/4". Smooth, round, easy-to-grasp handles are finished in satin chrome while the heads are highly polished.

All Blue-Point Boxockets are drop forged from finest alloy steel, expertly heat treated and carefully inspected and tested to make sure highest standards are maintained. Check your needs from the listing below or select one of the convenient sets shown at right.

Sizes and Specifications

Wrench Sizes	Stock No.		Diameter of Heads	Overall Length
3/8" & 7/16"	XD-1214		3/16" & 43/64"	8 1/2"
7/16" & 1/2"	XD-1416		47/64" & 3/4"	8 7/8"
1/2" & 9/16"	XD-1618		3/4" & 31/32"	9 1/4"
9/16" & 5/8"	XD-1820		27/32" & 29/64"	9 3/8"
19/32" & 11/16"	XD-1922		31/32" & 1 5/64"	10"
5/8" & 11/16"	XD-2022		29/64" & 1 5/64"	10 3/8"
5/8" & 3/4"	XD-2024		29/64" & 1 3/32"	10 1/2"
13/32" & 13/16"	XD-2526		1 3/64" & 1 3/16"	11 1/8"
3/4" & 7/8"	XD-2428		1 3/32" & 1 15/64"	12 3/8"
13/16" & 7/8"	XD-2628		1 3/16" & 1 11/64"	12 15/16"
7/8" & 15/16"	XD-2830		1 11/64" & 1 23/64"	12 15/16"
15/16" & 1"	XD-3032		1 29/64" & 1 7/16"	13 9/16"
1 1/16" & 1 1/8"	XD-3436		1 39/64" & 1 43/64"	15 1/2"
1 3/16" & 1 1/4"	XD-3440		1 45/64" & 1 37/32"	16 1/4"
1 1/8" & 1 3/8"	XD-3840		1 43/64" & 1 37/32"	17"

6 Piece Set

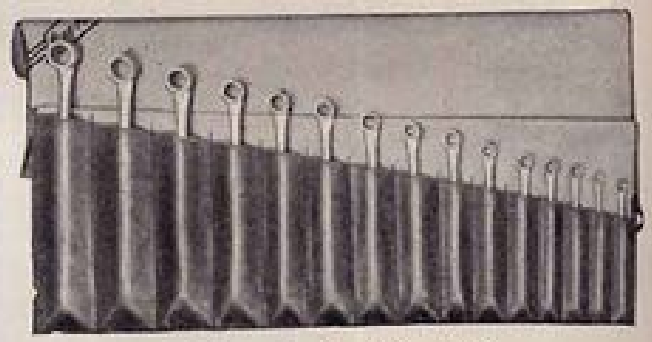
XD-606-K Boxocket Set. Contains one each of the following 15° angle Boxockets wrenches, XD-1214, XD-1618, XD-1922, XD-2024, XD-2628, and XD-3032 in C-63A kit bag. This set covers the twelve most popular sizes in a 3/8" to 1" range.

XD-606 Boxocket Set. Tools only.

10 Piece Set

XD-610-K Boxocket Set. Contains one each of the following 15° angle Boxockets listed at left. XD-1214, XD-1416, XD-1618, XD-1820, XD-1922, XD-2024, XD-2526, XD-2428, XD-3032, XD-3436. This set covers a wrench range from 3/8" to 1 1/8" in the most popular sizes and will handle a great majority of everyday service work. Set comes complete in C-103A sturdy leatherette kit bag.

XD-610 Boxocket Set. Above set, tools only.



15 Piece Boxocket Wrench Set

XD-615-K Boxocket Set. This set contains one each of all fifteen of the Boxockets listed in the left-hand column and covers a range of wrench sizes from 3/8" to 1 1/4", including every standard bolt and nut size within that range.

You will find your investment paying off in easier work and time saved once you have added this complete set to your tool equipment. The set comes in a sturdy leatherette kit bag No. C-150A.

XD-615 Boxocket Set. Above set but tools only.

WHITWORTH-METRIC WRENCHES

We can supply wrenches accurately broached to Whitworth and Metric standards in full ranges of practically all of our standard socket, boxocket, combination, open-end, and tappet wrench series. If your production or service work requires Whitworth or Metric standard wrenches, write for special catalog sheets listing Snap-on's complete available Whitworth and Metric wrench line, or consult your Snap-on man.

Snap-on COMBINATION WRENCHES

Snap-on Combination Wrenches have two types of openings, both the same size on the same wrench . . . a boxocket for breaking tight nuts loose or pulling them tighter and an open end for fast turning. The double hexagon broached Boxocket end is offset at a 15° angle to the head to clear obstructions and to provide knuckle clearance. The 15° angle open end lets you turn a nut with only 30° handle movement. Hammer forged, accurately broached, finished in polished chrome, they are the finest wrenches you can buy. Get one of the handy sets listed below.

Ⓐ Long Handle Series

The choice of a combination wrench entails a comparison of the advantages of long handles for greater leverage against short handles for close quarter work. This series provides long, smooth handles which give you plenty of leverage for tough nut turning.

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
5/16"	OEX-14	7/16"	7/16"	7 1/4"
3/8"	OEX-16	1/2"	1 1/32"	7 13/16"
7/16"	OEX-18	9/16"	1 1/32"	7 3/4"
1/2"	OEX-20	5/8"	1 1/32"	8 1/4"
9/16"	OEX-22	11/16"	1 1/32"	9 1/4"
5/8"	OEX-24	13/16"	1 1/32"	9 3/4"
11/16"	OEX-26	13/16"	1 13/32"	11"
3/4"	OEX-28	15/16"	1 13/32"	11 1/4"
13/16"	OEX-30	15/16"	1 13/32"	13"
7/8"	OEX-32	1 1/16"	1 13/32"	14"
15/16"	OEX-34	1 1/16"	1 13/32"	15"
1"	OEX-36	1 1/16"	1 13/32"	15 1/4"
1 1/16"	OEX-40	1 3/16"	1 13/32"	16 3/4"
1 1/8"	OEX-42	1 3/16"	1 13/32"	18"
1 3/16"	OEX-44	1 3/16"	1 13/32"	19"
1 1/4"	OEX-46	1 3/16"	1 13/32"	20 1/4"
1 3/8"	OEX-48	1 3/16"	1 13/32"	21 1/4"
1 1/2"	OEX-52	1 3/16"	1 13/32"	22 1/4"

Ⓑ Short Handle Series

These short handle Combination Wrenches are the choice of many mechanics for those close quarter jobs where long wrenches cannot be used, yet where plenty of wrench strength is needed. For maximum tool efficiency, equip yourself with both long and short types.

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
3/8"	OEX-100	1/2"	1 1/32"	5"
7/16"	OEX-120	9/16"	1 1/32"	5 1/8"
1/2"	OEX-140	5/8"	1 1/32"	5 1/4"
9/16"	OEX-160	11/16"	1 13/32"	5 5/8"
5/8"	OEX-180	13/16"	1 13/32"	6"
11/16"	OEX-200	13/16"	1 13/32"	6 1/8"
3/4"	OEX-220	15/16"	1 13/32"	6 3/8"
13/16"	OEX-240	15/16"	1 13/32"	6 5/8"

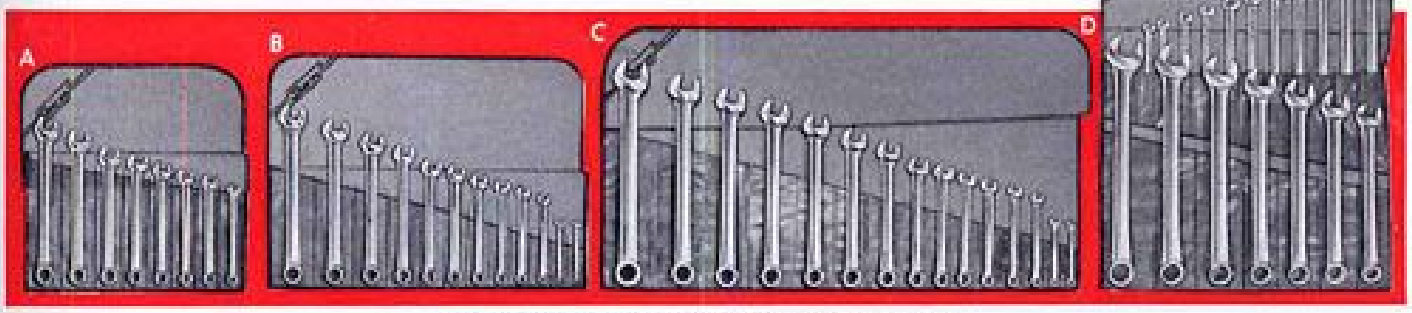
Whitworth-Metric Sizes

Snap-on Combination Wrenches are available in sizes to fit the Whitworth or Metric standard nuts and bolts used on foreign built cars. Write for special folder of Whitworth-Metric wrenches.

Ⓒ Midget Series

Here is wrench convenience for handling those tricky and awkward little jobs where socket wrenches won't work. These small tools with Open End Wrench at one end and Boxocket on the other will speed up all those small parts jobs such as ignition, radio, dashboard work etc. Both openings on each wrench are the same size. These small wrenches are built to the most exacting standards, they are full plated and highly polished.

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
1/4"	OXI-8	3/8"	3/8"	3 1/4"
5/16"	OXI-9	3/8"	3/8"	3 3/4"
3/8"	OXI-10	3/8"	3/8"	3 3/4"
7/16"	OXI-11	3/8"	3/8"	3 3/4"
1/2"	OXI-12	3/8"	3/8"	3 3/4"



Long Handle Combination Wrench Sets

Ⓐ 8-Wrench Set

OEXL-708-K Combination Wrench Set. Contains OEX-14, 16, 18, 20, 22, 24, 26, and 28. A selection of 8 popular sizes 5/16" to 7/8". Complete in C-82A kit bag.

OEXL-708 Set. Above set of tools without the kit bag.

Ⓑ 12-Wrench Set

OEX-712-K Combination Wrench Set. Contains OEX-100 and OEX-120 short handle series and OEX-14 to OEX-32 long handle series. Sizes 5/16" to 1" in C-121A kit bag.

OEX-712 Set. Above set without kit bag.

Ⓒ 15-Wrench Set

OEX-715-K Combination Wrench Set. Contains OEX-100 and OEX-120 short handle series and OEX-14 to OEX-40 long handle series. Sizes 5/16" to 1 1/16" in C-151A kit bag.

OEX-715 Set. Above set without kit bag.

Ⓓ 18-Wrench Set

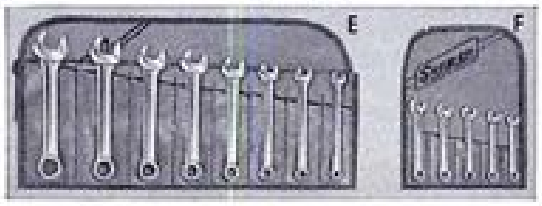
OEX-718-K Combination Wrench Set. Contains one each of the eighteen long handle series wrenches listed above. OEX-14 to OEX-52 in C-181A kit bag.

OEX-718 Set. Above set without kit bag.

Ⓔ Short Handle Combination Wrench Set

OEXS-708-K Short Handle Combination Wrench Set. Contains the following wrenches listed above: OEX-100, OEX-120, OEX-140, OEX-160, OEX-180, OEX-200, OEX-220, OEX-240. Complete in C-80A kit bag.

OEXS-708 Set. Above set, tools only.



Ⓕ Midget Combination Wrench Set

OXI-705-K Midget Combination Wrench Set. Contains the following wrenches listed above: OXI-8, OXI-9, OXI-10, OXI-11, OXI-12 in C-52A leatherette kit bag.

OXI-705 Set, tools only.

Blue-Point OPEN END WRENCHES FOR STRENGTH, TOUGHNESS AND FATIGUE RESISTANCE

YOU CANNOT BUY FINER WRENCHES

The new streamlined design Blue-Point "*Supreme*" Open End Wrench embodies every feature that good mechanics want and demand . . . because we asked them. It was our continuous contact with the finest mechanics in America which stimulated our engineering department to design a wrench which would incorporate all the features which these mechanics said they wanted.

They were tired trying to do a job in limited space with the old-fashioned, cumbersome, bulky heads of ordinary wrenches. They wanted narrow, tapering jaws that would help them reach tight spaces. They wanted precision machined jaws and heads to provide a firm, accurate fit to nut or bolt head without the semblance of slippage. They wanted a jaw that would grip the tightest nuts and bolts and make them yield. The 15° angle opening is the most efficient ever devised, with it a hex nut can be rotated completely where wrench can swing only 30°. They wanted placed in their hands wrenches with improvements which would help speed up every assembly and service operation. These mechanics wanted greater strength, lighter weight, balanced design and a sure grip handle. They wanted wrenches without an equal for strength, toughness and fatigue resistance.

Blue-Point "*Supreme*" Give You All These Features

In the new Blue-Point "*Supreme*" Open End Wrenches mechanics get all of these features—a wrench so good that it will outperform, outlast ordinary wrenches of comparable size and weight.

Like all Snap-on products, these wrenches are designed first to do the job better than any comparable wrench—a superior tool in every way judged by the most critical mechanics everywhere—yet we have succeeded also in improving its looks. The pear shaped heads are heavily chromed. And note the heavily chrome plated panel in the shank which makes it one of the best looking wrenches ever designed. Long thin handles with rounded edges for maximum leverage and balance.

Made From Superior Alloy Steel

Forged from the very finest alloy, high carbon steel and heat treated and tempered the exclusive Snap-on way—ruggedness and toughness are built into them in a superlative degree never found in any other wrenches at any price.

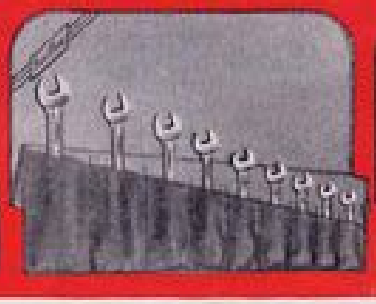
Buy Blue-Point "*Supreme*" Open End Wrenches and you buy the finest tools of their kind—wrenches that will stand-up under all the toughest working conditions everywhere and give you years of completely satisfying service.

YOUR CHOICE OF SIX CONVENIENT KITS

6 Wrench Set

OE-806-K Set, contains the following wrenches listed above: S-1214, S-1618, S-1922, S-2024, S-2526, S-2830 in C-62A leatherette kit bag.

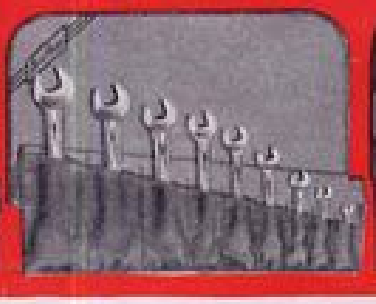
OE-806 Set. Tools only.



9 Wrench Set

OE-809A-K Set, contains following wrenches listed above: S-1214, S-1416, S-1618, S-1820, S-1922, S-2024, S-2526, S-2428, S-3032 in C-91A kit bag.

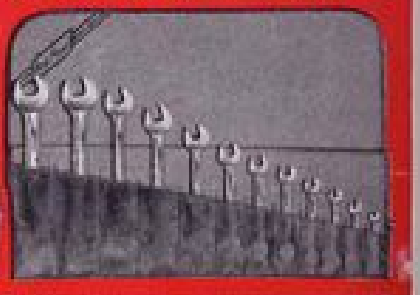
OE-809A Set. Wrenches only.



9 Wrench Set

OE-809-K Set, contains following wrenches listed above: S-810, S-1214, S-1618, S-1922, S-2024, S-2526, S-2830, S-3236, S-3440 in C-91A kit bag.

OE-809 Set. Wrenches only.

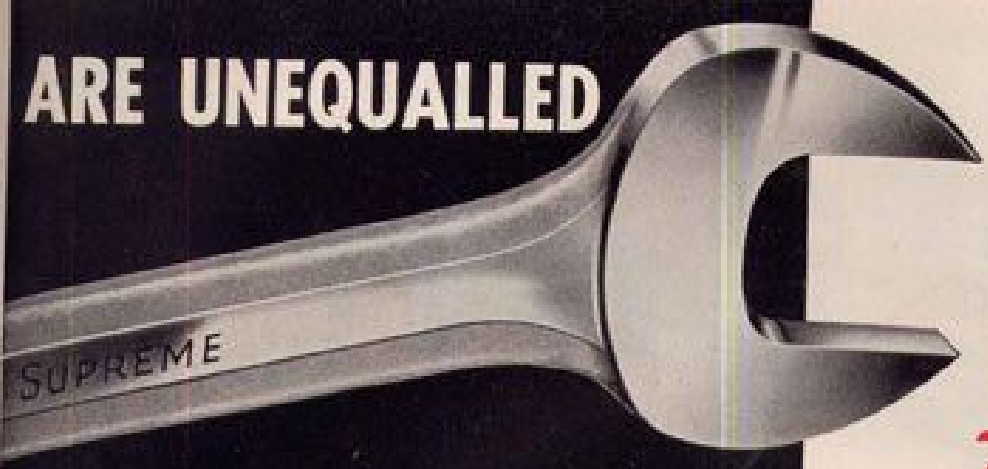


12 Wrench Set

OE-812-K Set, contains following wrenches listed above: S-810, S-1012, S-1214, S-1416, S-1618, S-1820, S-1922, S-2024, S-2526, S-2428, S-3032, S-3436 in C-122A sturdy leatherette kit bag.

OE-812 Set. Wrenches only.

ARE UNEQUALLED



ALL SIZES FROM 1/4" TO 1-5/8"

THESE SUPERIOR QUALITIES MAKE *Blue-Point* OPEN END WRENCHES THE BEST YOU CAN BUY

- THINNER HEADS
- NARROWER JAWS
- GREATER STRENGTH
- LIGHTER WEIGHT
- BALANCED DESIGN
- SURE GRIP HANDLE
- FINEST ALLOY HIGH CARBON STEEL

Wrench Sizes, Stock Numbers and Specifications

Wrench Sizes	Stock No.	Head Diameters	Head Thickness	Overall Length
1/4 & 5/16	S-810	15/32" & 21/32"	3/32"	4"
5/16 & 3/8	S-1012	21/32" & 25/32"	3/16"	4 1/2"
3/8 & 7/16	S-1214	25/32" & 29/32"	3/16"	5"
7/16 & 1/2	S-1416	29/32" & 1 1/32"	3/32"	5 1/2"
1/2 & 9/16	S-1618	1 1/16" & 1 5/16"	3/32"	6"
9/16 & 5/8	S-1820	1 5/16" & 1 5/16"	1/4"	6 1/2"
15/32 & 11/16	S-1922	1 3/16" & 1 3/16"	1/4"	7"
5/8 & 11/16	S-2022	1 3/16" & 1 7/16"	1/4"	7"
5/8 & 3/4	S-2024	1 3/16" & 1 3/16"	3/32"	7 1/4"
11/16 & 3/4	S-2224	1 3/16" & 1 3/16"	3/32"	8 1/8"
15/16 & 7/8	S-2228	1 3/16" & 1 15/16"	3/16"	10"
3/4 & 7/8	S-2428	1 3/16" & 1 15/16"	3/16"	10"
13/16 & 15/16	S-2526	1 3/16" & 1 15/16"	3/16"	10"
7/8 & 15/16	S-2830	1 15/16" & 1 15/16"	15/32"	11"
15/16 & 1	S-3032	1 15/16" & 2 5/32"	3/8"	12 1/2"
1 & 1 1/8	S-3236	2 1/16" & 2 3/16"	21/64"	13 1/4"
1 1/16 & 1 1/8	S-3436	2 1/8" & 2 3/16"	21/64"	13 1/4"
1 1/16 & 1 1/4	S-3440	2 1/8" & 2 3/16"	3/16"	14"
1 3/16 & 1 5/16	S-3842	2 3/16" & 2 5/16"	1/2"	15 1/2"
1 1/4 & 1 3/8	S-4044	2 3/16" & 2 5/16"	1/2"	15 1/2"
1 3/8 & 1 1/2	S-4448	2 3/4" & 3"	1/2"	16 1/4"
1 7/16 & 1 5/8	S-4652	2 15/16" & 3 1/16"	21/64"	17"

Own a Set of These Wrenches

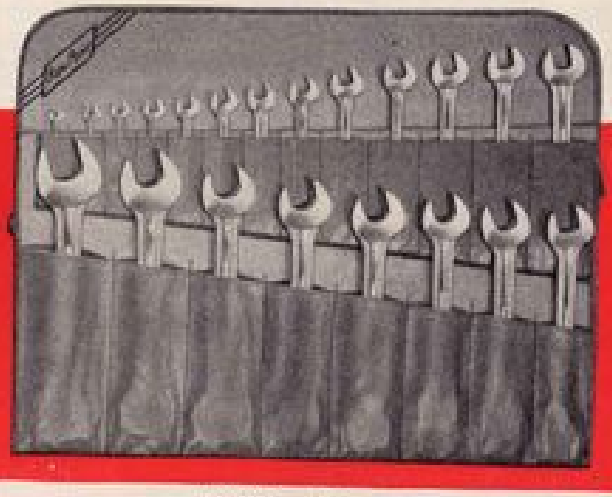
Below and on opposite page we have assembled six sets of the most popular and most often used wrenches of this type. They are available in strong leatherette kit bags as illustrated.

FOR EASY HANDLING

15 Wrench Set

815-K Set. Fifteen of the most popular sizes, starting at and including sizes up to 1⅛". An excellent selection for service work. Contains the following wrenches listed ve. S-810, S-1012, S-1214, S-1416, S-1618, S-1820, S-1922, 024, S-2526, S-2428, S-2830, S-3032, S-3236, S-3436, S-3440 -152A kit bag.

815 Set. Same set as above but wrenches only.



21 Wrench Set

OE-821-K Set. This complete set of Blue-Point open-end wrenches offers industrial maintenance departments the solution to a majority of their nut turning problems. A full range of wrenches from ¼" to 1⅝".

Contains all of the wrenches listed above except S-2228. Complete in C-210A kit bag.

OE-821 Set. Same set as above but wrenches only.

Blue-Point TAPPET WRENCH

DESIGNED TO GIVE YOU GREATEST SPEED AND CONVENIENCE

Check these Features

- Slenderized to Nth Degree.
- Disc Thin, Pear Shaped Jaws.
- Long—Slim Handles. Allow you to keep your hand clear of hot motors.
- Both heads set at an angle for better tool adaptability.

"SUPREME" . . . For Strength . . . Lightweight . . . Balance

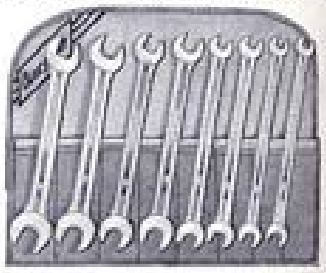
Blue-Point "Supreme" Tappet Wrenches bring speed and convenience to your tappet adjusting operations. Check the outstanding features at left. Disc-thin, pear shaped jaws easily get into those close quarters around the tappet adjusting screws, tappets and lock nuts . . . and the long rapier-slim handles allow you to keep your hands clear of hot motors—prevent unpleasant burns. Both heads are set at an angle from the handle allowing better tool adaptability. The wrenches are extremely light and perfectly balanced . . . superiorities you will appreciate on the job when usually two wrenches are worked like scissors in one hand and a third wrench is used in the other hand. Blue-Point gives you the highest qualities of strength and durability. The high carbon, special alloy steel used especially for these tools possesses degrees of strength not obtainable in ordinary tappet wrenches. Heat-treated by most modern methods—chrome plated and polished for finest appearance.

Stock Number	Wrench Sizes	Head Thickness	Overall Length
LTA-1416	3/16" & 1/4"	11/64"	8 1/2"
LTA-1618	1/4" & 5/16"	3/16"	8 1/2"
LTA-2022	5/16" & 11/16"	3/16"	8 1/2"
LTA-2428	3/8" & 7/8"	13/64"	8 1/2"

6-Wrench Set

LTA-806-K Set. Extremely handy tappet adjusting set. Set consists of six wrenches, two each of LTA-1416, LTA-1618, LTA-2022, complete in kit bag C-61A.

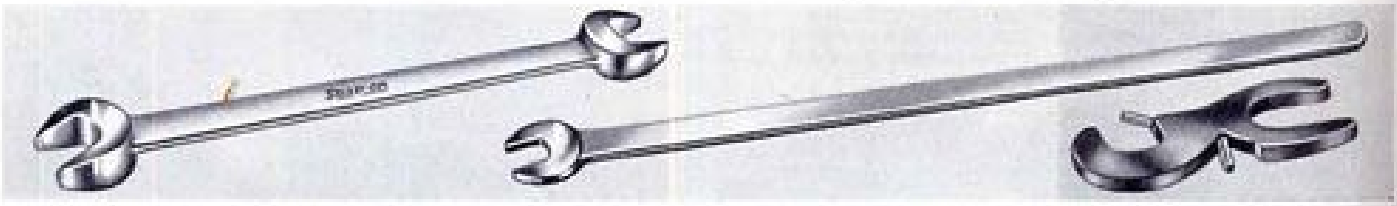
LTA-806. Above set of tappet wrenches, tools only.



8-Wrench Set

LTA-808-K Set. Complete set of tappet wrenches for every tappet job. Set consists of 8 wrenches, two each of LTA-1416, LTA-1618, LTA-2022 and LTA-2428, complete in kit bag C-61A.

LTA-808. Above set of tappet wrenches, tools only.



WEDGE-GRIP WRENCHES

OEW-803 Wedge-Grip Wrench Set. Here is something entirely new in open-end wrench construction that gives you turning power at angles as great as 60°! The wedge shaped jaws are made much thicker than standard wrenches in order to give greater contact with the nut when the wrench must be held at an angle. This means increased turning power with less danger of the wrench slipping off the nut. Because of the thicker heads, the jaw length and head diameters are smaller than standard wrenches and will turn recessed nuts impossible to get at with any other type of open-end wrench.

An additional feature is a recessed portion at the base of each jaw opening which receives a point of the hex nut. This allows the nut to snuggle closer to the handle of the wrench and permits the short jaw construction. Set includes three sizes listed.

Stock No.	Wrench Sizes	Head Thickness	Head Diameter	Overall Length
S-1416 W	1/4" & 5/16"	13/64" & 15/64"	15/16" & 15/16"	5 29/32"
S-1820 W	5/16" & 3/8"	15/64" & 7/16"	1 1/32" & 1 1/32"	7 1/8"
S-2428 W	3/8" & 7/16"	1/2" & 9/16"	1 5/64" & 1 5/32"	9 11/16"

SINGLE END TAPPET WRENCHES

These heavy duty, single end tappet wrenches give you the advantage of extra long handles to protect your hands from hot manifolds. Handles are satin finish—heads are polished chrome plating. Wrench opening sets at 15° to the handle. Hammer forged from tough alloy steel.

Note: 5/8" and 11/16" sizes can be furnished on special order—prices upon request.

Stock No.	Wrench Size	Thickness	Overall Length
SL-140	7/16"	5/16"	14"
SL-150	1/2"	5/16"	14"
SL-160	9/16"	5/16"	14"
SL-170	5/8"	5/16"	14"
SL-180	3/4"	5/16"	14"

WHITWORTH SIZES

If you work on foreign-built cars, write for special catalog supplement which lists all Snap-on Whitworth and Metric standard wrenches we have available.

CT-14 Chrysler Single End Tappet Wrench. Mechanics working on Chrysler engines will appreciate using this special tappet wrench. It is longer than the standard tappet wrenches listed above but 2" shorter than the wrenches listed at the left. The 3/16" opening is accurately broached for a perfect fit on the nut. Head thickness is 5/32", overall length 12". Tool is chrome plated with satin finish handle and polished head.

HANDY TAPPET TOOLS

These handy tools provide you with the convenience of that third hand you've often needed when doing tappet adjusting work. The curved jaws are slipped over the adjacent tappet with the locking jaw in position on the tappet you wish to hold. The locking pin holds the tool in position on the job. Have both sizes in your kit and enjoy real working convenience.

TA-16 Tappet Holding Wrench. Has 1/2" lock opening to handle a majority of cars.

TA-18 Tappet Holding Wrench. Has 9/16" lock opening for General Motors cars.

Snap-on ANGLE HEAD OPEN END WRENCHES

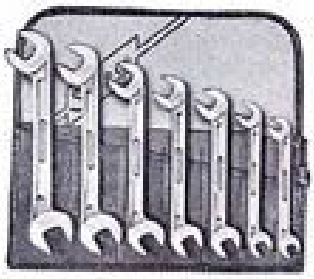
Turn nuts easier in tight quarters than any other type of open end wrench

HEADS SET AT 30 AND 60 DEGREES TO THE WRENCH HANDLE

Both of the heads on each of these wrenches have the same size wrench opening, but one is set at a 30° angle to the handle and the other at a 60° angle. This arrangement gives you four usable wrench positions and makes it possible for you to turn nuts which are located in narrow swing areas where standard open ends or other type wrenches just won't work. Add these tools to your kit and you eliminate all your turning troubles on those hard-to-reach nuts in the 3/8" to 3/4" size range.

Other features include well rounded handle edges that are comfortable in the hand . . . pear-shaped, thin jaws which contribute to close quarter operation . . . draw-broached openings which give you accurate, close fitting wrenches . . . a rust-proof double plated finish of nickel and chrome over the entire tool. Hammer forged from finest alloy steel and tempered by Snap-on's traditionally fine heat treating processes to toughen and harden them from skin to core.

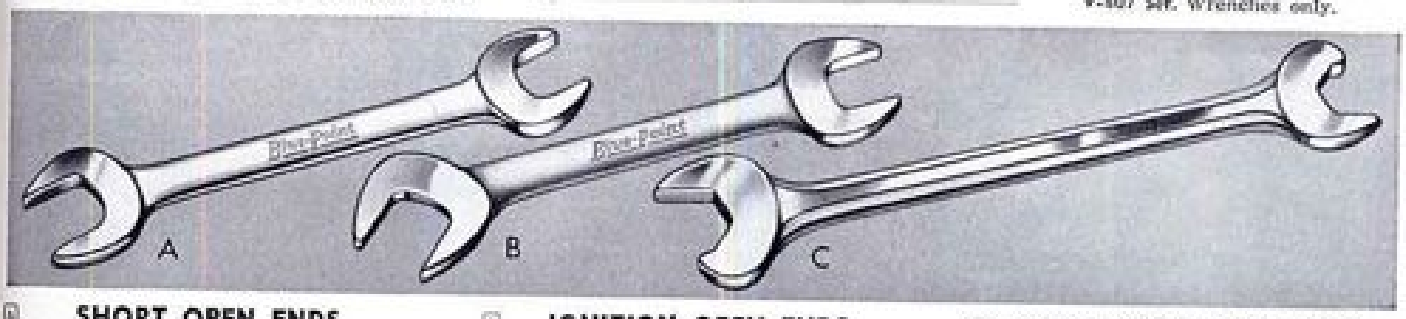
Stock No.	Wrench Size	Head Thickness	Overall Length
V-5212	3/8"	5/16"	5"
V-5214	7/16"	3/8"	5 1/2"
V-5216	1/2"	3/8"	6"
V-5218	9/16"	1/4"	6 1/2"
V-5220	5/8"	1/4"	6 11/16"
V-5222	11/16"	5/16"	7 1/2"
V-5224	3/4"	5/16"	8"



7 Wrench Set

V-807-K Set. Contains one each of the wrenches listed at left. Complete in C-74 leatherette kit bag.

V-807 Set. Wrenches only.



A SHORT OPEN ENDS

These short Open End Wrenches will prove invaluable wherever nuts 7/16" to 7/16" sizes are encountered, and especially so where working space is extremely limited. Forged from a special alloy steel—they will withstand tough usage and outperform any wrench in their class. The heads are precision machined. Two sizes on each wrench. Chrome plated finish.

Wrench Size	Stock No.	Head Thickness	Length
1/4" & 5/16"	J-1214	1/4"	3 1/4"
5/16" & 3/8"	J-1618	5/16"	3 1/2"
3/8" & 7/16"	J-2022	3/8"	3 1/2"
7/16" & 1/2"	J-2428	3/8"	3 3/4"
1/2" & 9/16"	J-3236	3/8"	4 1/2"

Short Open End Wrench Set

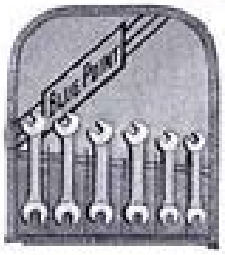
J-805-K Short Open End Set. Contains one each of the above wrenches in C-52A kit bag.

J-805 Set, tools only.

B IGNITION OPEN ENDS

Make easy work of those ignition, carburetor, radio, and electrical jobs which take tiny, short handled tools. Made in pairs with two different sizes on each wrench . . . each size duplicated at a different angle.

Wrench Size: Straight End	Wrench Size: Angle End	Stock No.	Head Thickness	Overall Length
5/16"	1/4"	C-1415	5/16"	3 1/2"
3/8"	5/16"	C-1514	3/8"	3 1/2"
7/16"	3/8"	C-1618	3/8"	3 3/4"
1/2"	3/8"	C-1816	3/8"	3 3/4"
9/16"	1/4"	C-1718	3/8"	3 3/4"
5/8"	1/4"	C-1917	3/8"	3 3/4"
11/16"	5/16"	C-2022	3/8"	3 3/4"
3/4"	5/16"	C-2220	3/8"	3 3/4"
7/8"	3/8"	C-2428	3/8"	3 3/4"
15/16"	3/8"	C-2824	3/8"	3 3/4"



Ignition Wrench Sets

C-806-K Set. Contains C-1415, C-1514, C-1618, C-1816, C-2022 and C-2220 complete in C-65A kit bag.

C-806 Set, tools only.

C-810-K Set. One each of the ten ignition wrenches listed above, in C-100A kit bag.

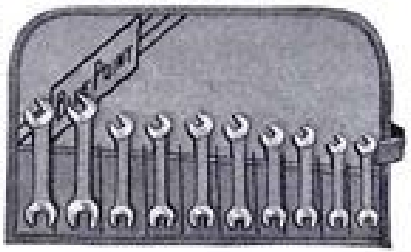
C-810 Set, tools only.

C RATCHETING OPEN ENDS

Give you ratcheting speed with open end convenience on many assembly and service operations. Runs the nut all the way down without removing the wrench from the nut. Practical time saving tools . . . chrome plated.

Wrench Size	Stock No.	Head Thickness	Overall Length
1/4" & 5/16"	RS-1214	1/4"	5"
5/16" & 3/8"	RS-1416	7/16"	5 1/2"
3/8" & 7/16"	RS-1618	7/16"	6"
7/16" & 1/2"	RS-1820	7/16"	6 1/2"

RS-804A Ratcheting Open End Wrench Set. Contains RS-1214, RS-1416, RS-1618 and RS-1820. Tools only.



Snap-on Octo-Grip

TRADE MARK

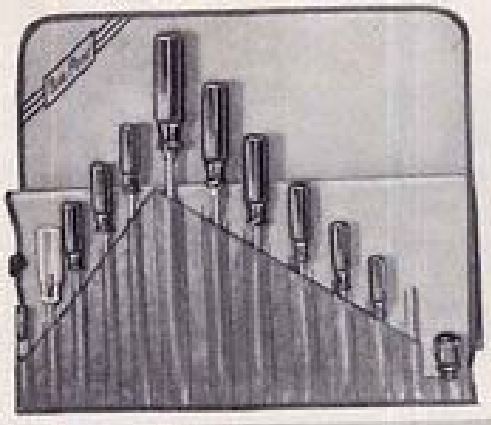
Here are the finest screw drivers we have ever seen. They represent the combined skill of designers, metallurgists and fine craftsmen. Nothing finer has ever been made—they are better looking, more practical . . . longer lasting . . . that is why better mechanics are choosing Snap-on "Octo-Grips."

Here are reasons why you will agree they are superior.

1. Handles are made of tough black plastic . . . proved under actual working conditions to be the finest . . . They are practically unbreakable and are definitely shock-proof.
2. Blades are made of high grade alloy steel . . . entire bar is electric heat treated under precision automatic control to develop maximum combined strength and toughness.
3. Handles are 8-sided with alternate sides relieved and a rounded ridge at each corner, shape prevents rolling.
4. The shape of these handles offer a powerful turning grip without cutting into your hand.
5. Extra long wing crimping on blade shank anchors blade securely in the handle.
6. Blades have precision cross ground tips.

STANDARD TIP

OCTO-GRIP STANDARD TIP SERVICE SET



SDS-130-K Screw Driver Set. Here is a set of 13 standard tip screw drivers most needed by the average mechanic, giving him the right combination of blade length, tip and leverage for every job. The set consists of the following screw drivers: SD-1, SD-2, SD-4, SD-6, SD-8, SD-12; Cabinet screw drivers SD-143, SD-146, SD-1410; Spark Test Driver SD-145, Midget Drivers 1011 and SD-234, and Screw Starter GA-12. Complete in C-132-B kit bag as shown at the left.

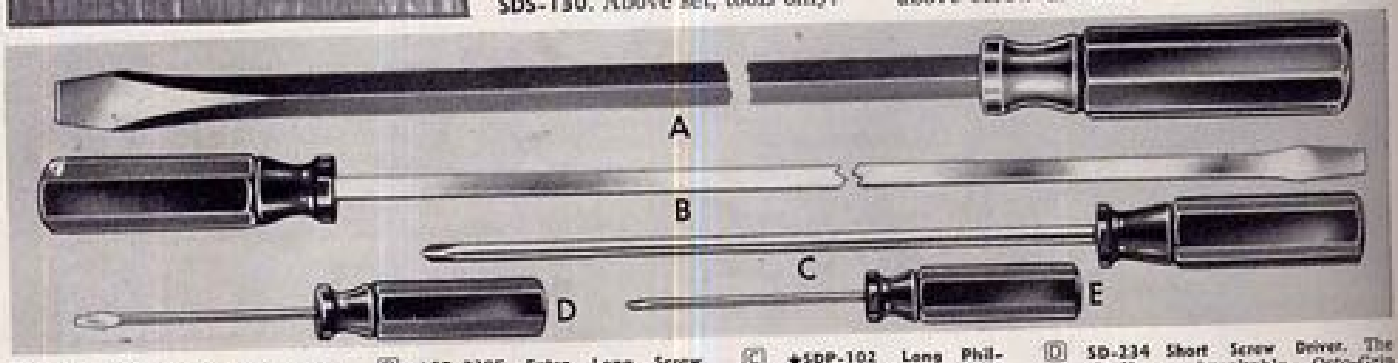
SDS-130. Above set, tools only.

OCTO-GRIP STANDARD TIP DRIVERS

Listed below are sizes and specifications for our line of Standard Tip Octo-Grip Screw Drivers. The shockproof resilient, tough, plastic handle has extremely high dielectric resistance to insure a high factor of safety. Once you have tried an "Octo-Grip" and get the feel of this amazing handle you will never want any other drivers in your kit.

Stock No.	Blade Length	Blade Edge	
SD-1	1½"	1/4"	
SD-2	2½"	5/16"	
SD-4	4"	1/4"	
SD-6	6"	5/16"	
SD-8	8"	3/8"	
SD-12	12"	15/32"	

SDS-60 Standard Screw Driver Set, one each of above screw drivers.



(A) **No. 18-PO Heavy Duty Screw Driver.** This is the most powerful screw driver in our line . . . especially useful for work around heavy machinery where slotted screw heads of ¾" diameter or larger are encountered. Blade has a ⅝" wide tip and is made of ½" diameter square stock that can be turned with a wrench to move rusted-in screws. The 18" blade is securely anchored in a large plastic handle which protects against electric shocks and affords tremendous leverage.
Note: While this tool is big and rugged its blade is correctly tempered for driving big screws—not for use as a lever.

(B) **★SD-2385 Extra Long Screw Driver.** Where the job is extremely difficult to reach, you will find that this extra long and slender bladed screw driver is just the tool to have handy. Although the blade is made slender purposely to get into tight places, it is forged from the finest alloy steel, then heat treated and tempered to give blade resiliency and toughness to the tip. The plastic Octo-grip handle fits the hand perfectly—is practically unbreakable and is shock proof.
The ¼" square blade has a length of 21¾". Tip size is 5/16" x 5/32" and the tool is 25½" long.

(C) **★SDP-102 Long Phillips Screw Driver.** A #2 Phillips bit on a shank 9¾" long, that's the SDP-102. The extra long shank on this screw driver gives you that extra reach necessary for windshield molding work on Kaiser-Frazer, window regulator jobs on Buick and Cadillac as well as under-the-dash work on Studebaker and many other cars. The comfortable, black, Octo-Grip handle provides shock-proof turning leverage. Blade diameter is ¼", overall length 13⅛".

(D) **SD-234 Short Screw Driver.** The practically unbreakable Octo-Grip plastic handle, which is a non-conductor of electricity, makes this screw driver in much demand for small electrical jobs, on car radios, motors, electrical appliances, refrigerators, and many others. The blade is 2" long and made of ¾" stock.

(E) **★SDP-319 Thin Phillips Screw Driver.** Designed with a thin shank to reach No. 1 Phillips screws in confined areas, such as voltage regulator work. The ¾" diameter shank is securely anchored in a black Octo-Grip handle. Blade length is 3¼", overall length 6⅛".

OCTO-GRIP PHILLIPS DRIVERS

Phillips design cross slot screws are growing in popularity. Many car manufacturers now use them on interior trim, hinges, etc. Also widely used on bus and truck bodies, furniture and many other places. Only Phillips drivers operate effectively on Phillips screws. Table on page 53 lists Phillips screws and bit sizes.

Stock No.	Overall Length	Blade Diameter	Blade Length	Phillips Bits
*SDP-22	3 1/8"	1/4"	1 1/2"	#2
*SDP-31	5 3/8"	5/16"	3"	#1
*SDP-42	7 3/4"	3/8"	4"	#2
*SDP-63	10 1/4"	5/16"	6"	#3
*SDP-64	10 15/16"	3/8"	6"	#4

★SDP-50 Phillips Screw Driver Set, one each of above screw drivers.

OCTO-GRIP CLUTCH DRIVERS

For the first time the clutch type screw drivers are now fitted with the new, improved Octo-Grip plastic handle—the handle of dense, strong, shockproof plastic complements the fine blade which is milled from the finest alloy steel, then carefully heat-treated to give exceptional tip strength.

Stock No.	Overall Length	Blade Diameter	Blade Length	Blade Tip
*SDC-4	6 1/8"	3/32"	4"	3/8"
*SDC-5	7 1/8"	3/32"	4"	5/32"
*SDC-6	7 3/4"	11/64"	4"	3/16"
*SDC-8	8 3/4"	13/64"	5"	1/4"
*SDC-10	9 1/4"	15/64"	3"	5/16"
*SDC-13	10 3/4"	17/32"	6"	13/32"

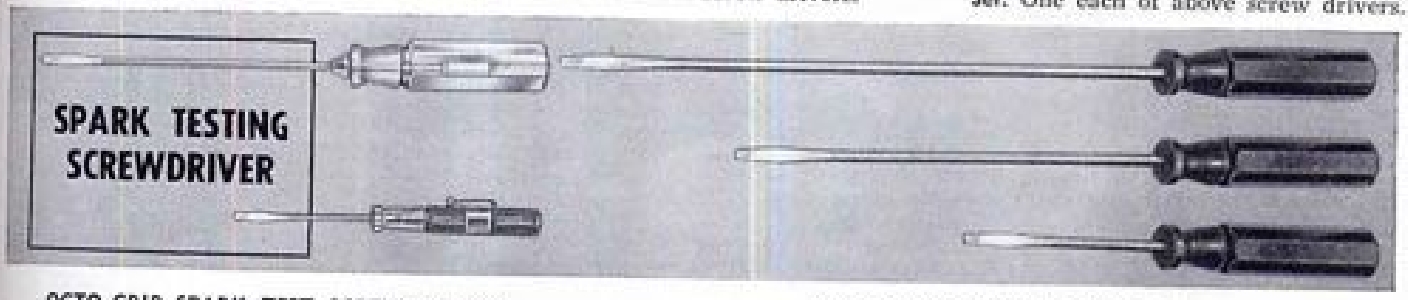
★SDC-60 Clutch-type Screw Driver Set. One each of above screw drivers.

OCTO-GRIP R. & P. DRIVERS

Among the various types of recessed head screws on the market is the Reed and Prince cross slot screw which has become very popular. Don't confuse it with the Phillips screw for there is a great difference in the slots. Compare the tips and you will see that each requires a special screw driver. Get this set so you can efficiently handle jobs using Reed and Prince screws.

Stock No.	Blade Length	Blade Tip
*SDR-1	1 1/2"	1/4"
*SDR-3	2 1/2"	3/8"
*SDR-4	4"	1/4"
*SDR-6	6"	1/4"
*SDR-8	8"	3/8"

★SDR-50 Reed and Prince Screw Driver Set. One each of above screw drivers.



OCTO-GRIP SPARK TEST SCREW DRIVERS

Put an end to guess work. The neon tube fitted into handle tells condition of plug by type of flash. Brilliant flash means good condition—a thin dash indicates too narrow a gap—no flash means a short. Slender blades and shock-proof handles make these excellent for electrical work. The long thin blade also makes it ideal for voltage regulator and distributor adjustments.

★SD-145 Spark Testing Screw Driver. 5 1/2" blade.

★1015 Spark Testing Screw Driver. 2 3/4" blade.

No. 1015 is fitted with a pocket clip for convenient carrying like a pencil or pen.

Neon Tubes for Spark Testing Screw Drivers.

★NT-2 Replacement Tube for above. When replacing tube, save the original springs in handle, as none are included with tubes.

OCTO-GRIP CABINET SCREW DRIVERS

Now our Cabinet screw drivers are fitted with Genuine Octo-Grip Plastic handles—the kind that are practically unbreakable and are shockproof when used on electrical work. This important improvement easily makes them the outstanding screw driver in their class.

The long, thin blades are made from a special high test alloy steel, carefully heat treated to give them tough working tips and strong resilient shanks. Because of their long slender blades these screw drivers can be used on many jobs where there is little clearance and where a long reach is necessary to turn smaller types of screws. They are especially recommended for electrical and body work. The superb blades are of 5/16" hexagon stock. You cannot buy better quality screw drivers than Snap-on Octo-Grip.

SD-143 Cabinet Screw Driver. 3" Blade.

SD-146 Cabinet Screw Driver. 6" Blade.

SD-1410 Cabinet Screw Driver. 10" Blade.

CDS-30 Cabinet Screw Driver Set. One each of above drivers.

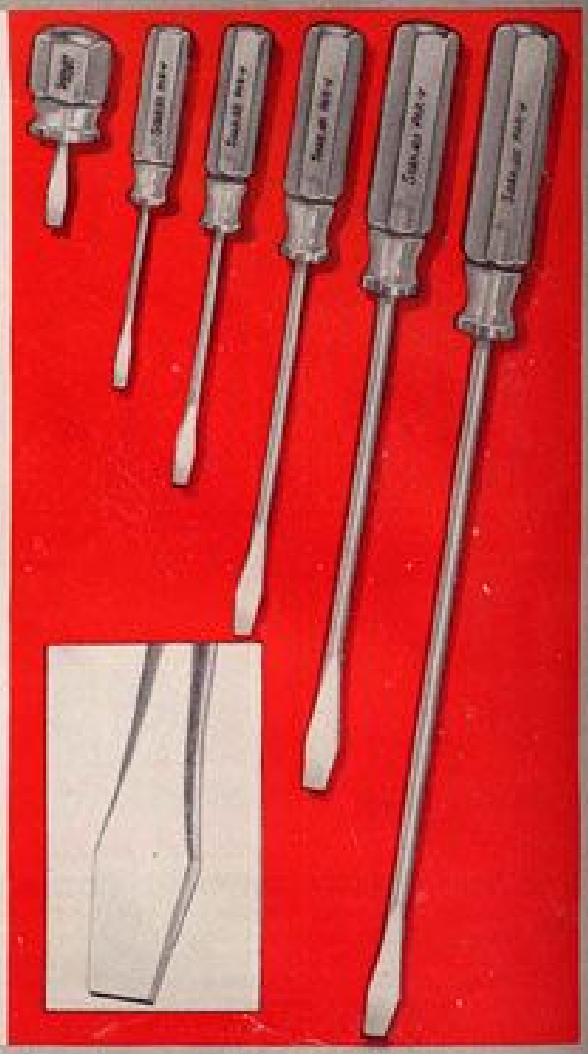
Snap-on

PAR-V SCREW DRIVERS

Rid yourself of screw driver trouble . . . for a long time to come. . . at reasonable cost—with a set of Snap-on PAR-V's, built to deliver plenty of rugged service.

Huge quantity production has enabled us to place extremely attractive prices on this line, and at the same time give you very high grade tools. These Screw Drivers are now equipped with yellow transparent plastic Octo-Grip Handles—practically unbreakable—shockproof. They are correctly sized to and balanced perfectly with the blade and afford an excellent hand grip. Blades are made from special analysis high carbon tool steel, electrically heat treated and oil tempered to give the best combination of tip hardness and blade strength—to give long trouble-free use. Tips are correctly tapered, cross ground and machined to fit the screw head and give the greatest possible turning strength. Always use the proper size driver to protect both driver and screw head.

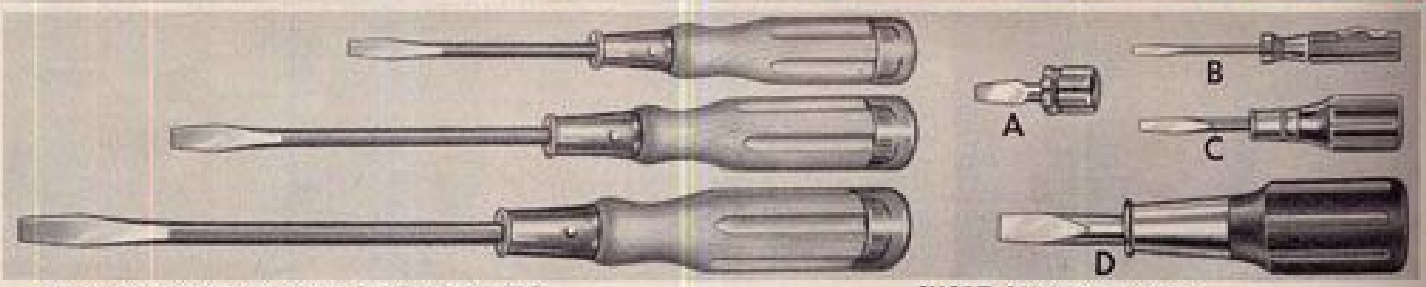
Extra long double wing crimping on the blade shank anchors it securely and prevents the blade from loosening or turning in the handle.



Specifications—PAR-V Screw Drivers

Stock No.	Blade Diameter	Blade Length	Tip Width	Tip Thickness
★RG-1	1/4"	1 1/2"	3/16"	.037"
★RG-2	7/32"	2 1/2"	3/16"	.032"
★RG-4	5/16"	4"	3/16"	.037"
★RG-6	5/16"	6"	5/16"	.040"
★RG-8	3/8"	8"	5/16"	.050"
★RG-12	3/8"	12"	5/16"	.050"

★RGS-60 **Par-V Set.** All six screw drivers listed above



QUALITY WOOD HANDLE SCREW DRIVERS

These exceptionally strong and durable tools have blades that extend through the handle and are finished at the end with plastic caps. The cap protects the handle from splitting and provides a smooth surface for the palm of the hand. A steel ferrule is riveted to the blade and handle to give great rigidity. The alloy steel octagon blades are carefully tempered to give tough, hard shanks and tips.

TX-4 Screw Driver . . . 4" shank length, 5/16" wide blade tip.
TX-6 Screw Driver . . . 6" shank length, 5/16" wide blade tip.
TX-8 Screw Driver . . . 8" shank length, 3/8" wide blade tip.
TXS-30 Set. Three wood handle screw drivers listed above.

SHORT SCREW DRIVERS

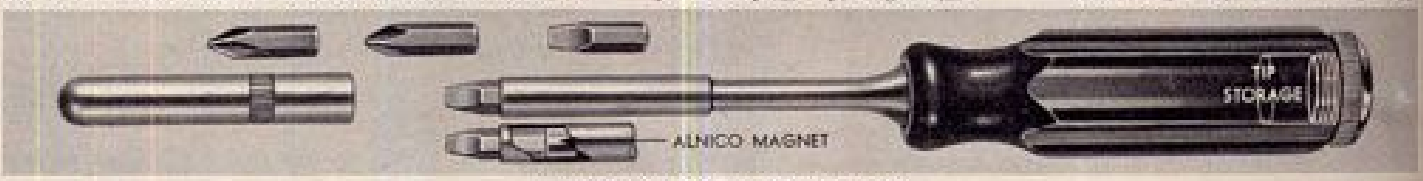
A good mechanic knows that he can save time, trouble and effort by using the right size screw driver for the job. These shorties will prove a valuable addition to every man's kit.

[A] **SD-11 Stubby Screw Driver.** The end of the fluted plastic handle is concave and acts as a finger pivot, 7/8" blade, overall length 1 5/8".

[B] **★1011 Screw Driver.** The 2" long blade has a magnetized tip for picking up small screws, etc. The plastic handle is fitted with a convenient pocket clip. 1/4" tip, length 4 5/8".

[C] **No. 181 1/2 Screw Driver.** A small screw driver with fluted wood handle. Metal ferrule anchors blade. 1/4" tip, blade length 1 1/2", overall length 4 1/4".

[D] **No. 153A Screw Driver.** A powerful short bladed driver for larger screws as well as overhead valve adjusting, drag links, etc. 3/8" x 11/64" blade tip, blade length 1 5/8", overall length 8 1/2".



MAGNETIC SCREW DRIVER SETS

Here's a screw driver that will prove a valuable addition to any tool kit. Each tool acts as a combination screw starter for any type of steel screw and also as a standard screw driver. A powerful Alnico magnet is securely anchored in the hollow shaft as shown in the illustration above. This magnet not only makes the removable bit magnetic but holds the bits in the shaft, making them very easy to interchange. One bit remains in the magnetic shank while the other 3 are carried in the hollow handle under the metal cap. A protecting cap slips over the end of the driver to protect the tip when not in use. Handles are of fluted plastic, and two lengths of shafts are available.

SDM-40 Magnetic Screw Driver Set. Contains handle with 4" shank, bit protector, and all 4 bits listed below.
SDM-80 Magnetic Screw Driver Set. Contains handle with 8" shank, bit protector, and all 4 bits listed below.
SDM-212 Standard Bit . . . . . .035" x 3/16" tip.
SDM-213 Standard Bit . . . . . .045" x 1/4" tip.
SDM-222 Phillips Bit . . . . . No. 2 tip.
SDM-231 Reed and Prince Bit.

Snap-on

PHILLIPS SCREW DRIVERS

Phillips head recessed screws are now used in so many new applications that we offer a wide choice to handle these special screws. Blades are all made from best quality steel tempered to give the utmost service. Handles are from selected hardwood—smoothly finished. Blades firmly anchored and secured by heavy steel ferrule. List below shows types and sizes of Phillips screws and correct bit size for each.

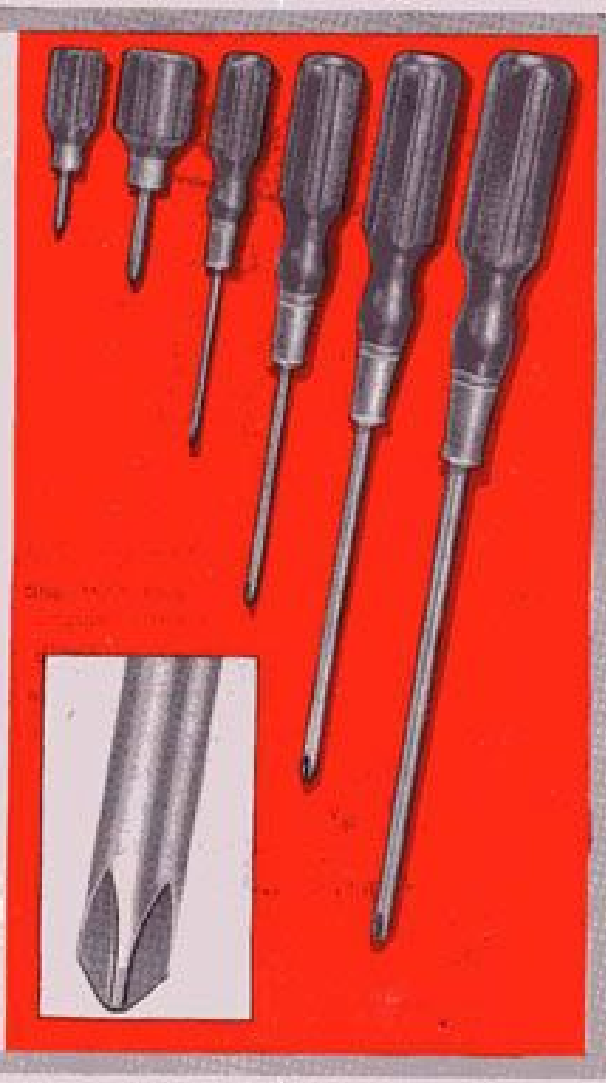
Use the Proper Size Driver for Phillips Screws

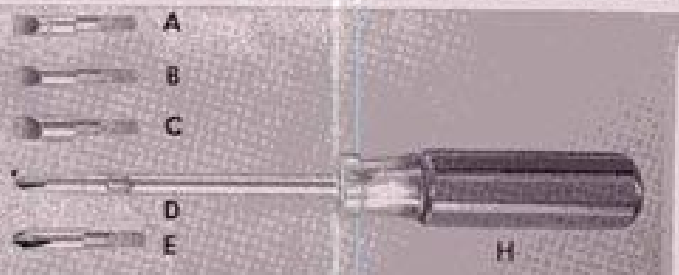
Phillips Bit No.	Machine Screw Diameters	Wood Screw Diameters	Stove Bolt Diameters	Case Hardened Sheet Metal Screw Diameters
Flat, Oval, and Fillister Heads				**Flat and Oval Heads**
1	#4 and Smaller	#4 and Smaller		#4
2	#5 to #10 Inc.	#5 to #9 Inc.	1/4" to 3/8"	#5 to #10 Inc.
3	#12 to 1/4"	#10 to #16 Inc.	1/4" to 3/8"	#12 to #14 Inc.
4	5/16" and Larger	#18 and Larger	5/16" to [illegible]	
Round Heads				
1	#2	#4 and Smaller	1/4"	#4 and #5
2	#6 to #10 Inc.	#5 to #10 Inc.	5/16" to 3/8"	#6 to #12 Inc.
3	#12 to 1/4"	#11 to #16 Inc.	5/16" to 3/8"	#14
4	5/16" and Larger	#18 and Larger	5/16" to 1/2"	

Specifications—Phillips Screw Drivers

Stock No.	Lgth. of Shank	Bit Size		Stock No.	Lgth. of Shank	Bit Size	
★STS-1	1"	1		★ST-4	4"	2	
★STS-2	1 3/4"	2		★ST-6	6"	3	
★ST-3	3"	1		★ST-8	8"	4	

★**STP-60 Phillips Set.** All six screw drivers listed above.





SCREW STARTERS MAKE JOB EASY

Try this Screw Starter on just one job and you will realize why it should be in your tool kit. The end of this tool chucks tightly into the screw slot with no outside claws to interfere . . . they provide a grip that will withstand an eight pound pull and automatically release when pressure becomes too great. Light weight Duralumin Handles . . . high carbon steel gripping bits. Note: These are for starting screws only.

★**GA-11** 2 1/2" long.
★**GA-12** 5 1/4" long.
★**GA-13** 9 1/2" long.

★**SS-30 Set.** 3 Screw Starters listed above.

DETACHABLE HEAD SCREW DRIVER SET FOR PHILLIPS AND SLOTTED SCREWS

★**GA-80 Interchangeable Screw Driver Set.** Here is a Snap-on product that is gaining in popularity—a tool that is especially useful in production work with case hardened screws—when the tool is used almost constantly—where tips are subjected to hardest use. When tip wears, no need to throw away entire screw driver—just replace the tip.

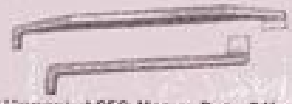
This set of 5 detachable heads and handle will service most screw driving jobs and allow you to replace broken bits at extremely low cost. Set includes No. 2 and No. 3 Phillips bits and three standard bits to fit slotted screws No. 5 and larger.

Replacement parts for the Interchangeable Screw Driver

- ★**GA-80-30** .030" Standard Bit.
- ★**GA-80-35** .035" Standard Bit.
- ★**GA-80-40** .040" Standard Bit.
- ★**GA-80-2** No. 2 Phillips Bit.
- ★**GA-80-3** No. 3 Phillips Bit.
- **GA-80-1** Octo-Grip handle only.
- ★**GA-80-11** No. 1 Phillips Bit.—Not included in the set.

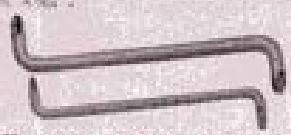
(Upper) ★**060 Heavy Duty Offset Screw Driver** for drag link and shock absorber work. 7 1/2" long, 1/2" stock, 7 1/2" blades.

(Lower) ★**H-50® Hammer Head Screw Driver.** Works well in tight quarters. 6" long, blades 1/4x1 1/4".



(Upper) ★**050 Heavy Duty Offset Screw Driver.** Useful in Ford Work. 7" long, 1/2" Stock, blades 7/32" thick.

(Lower) **Offset Screw Drivers**
★**020** 4" long, 1/4" stock, blades 1/4"x3/32".
★**030** 5" long, 5/16" stock, blades 5/16"x1/32".
★**040** 3 1/2" long, 3/8" stock, blades 5/16"x3/32".



(Upper) ★**ST-034A Phillips Offset Screw Driver.** 8" long, No. 3 and No. 4 bits.

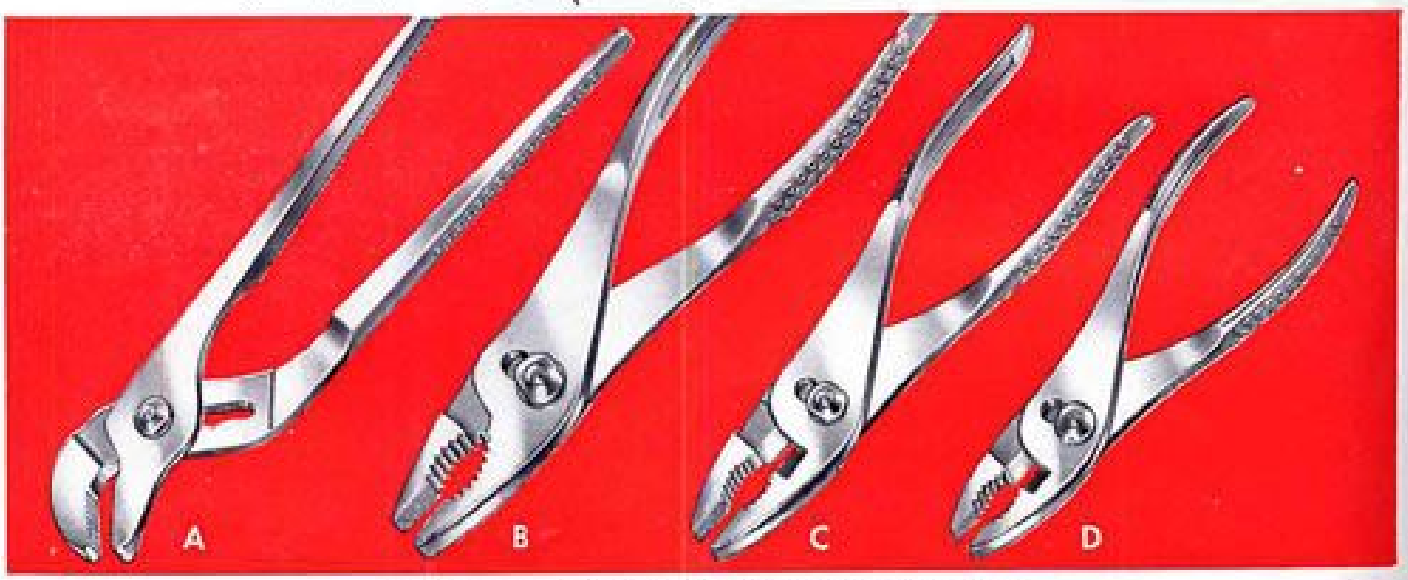
(Lower) ★**ST-012A Phillips Offset Screw Driver.** 6" long, No. 1 and No. 2 bits.

Snap-on "VACUUM GRIP" PLIERS

HANDLE EVERY PLIER JOB FASTER... EASIER... SAFER...

and they'll outlast several pairs of ordinary pliers

1 Hammer forged from special high carbon Silico-Molybdenum alloy tool steel.
2 Hardened with liquid heat and oil tempered clear through—not surface hardening only. Joints locally tempered electrically.
3 Scientific design which distributes the strain over entire tool—assuring maximum strength.
4 Light in weight—perfectly balanced—not head heavy. Less fatiguing to use.
5 Smooth, perfectly matched, easy riding precision machined joints.
6 Sharp, deep milled teeth given intense gripping power with minimum handle pressure.
7 Hand filed, perfectly aligned and sharpened cutters on all cutter patterns.
8 Spring tempered Vacuum-Grip Pattern handles.
9 Highest quality throughout, Vacuum-Grip pliers are masterpieces of the toolmaker's craft.



LARGE GRIPPING AND COMBINATION PLIERS

[A] **No. 9C 9" Gripping or Water Pump Pliers.** A gripping pliers especially suitable for tightening water pump packing nuts on older cars or for jobs such as turning any shaped nut, bolt, rod, etc. The thin jaws make it useful for many other jobs and make it desirable as a general utility pliers.
The slip-joint design permits four jaw adjustments to give an approximately parallel working position to the jaws up to 1¾" opening. Four spacer holes give quick non-slip adjustment. Long handles are designed to provide a powerful but comfortable hand grip. Teeth are milled sharp and deep to take a firm bite on rods, pipes, etc. The head is set at a 45° angle for easy action in otherwise inaccessible places. Full nickel finish.

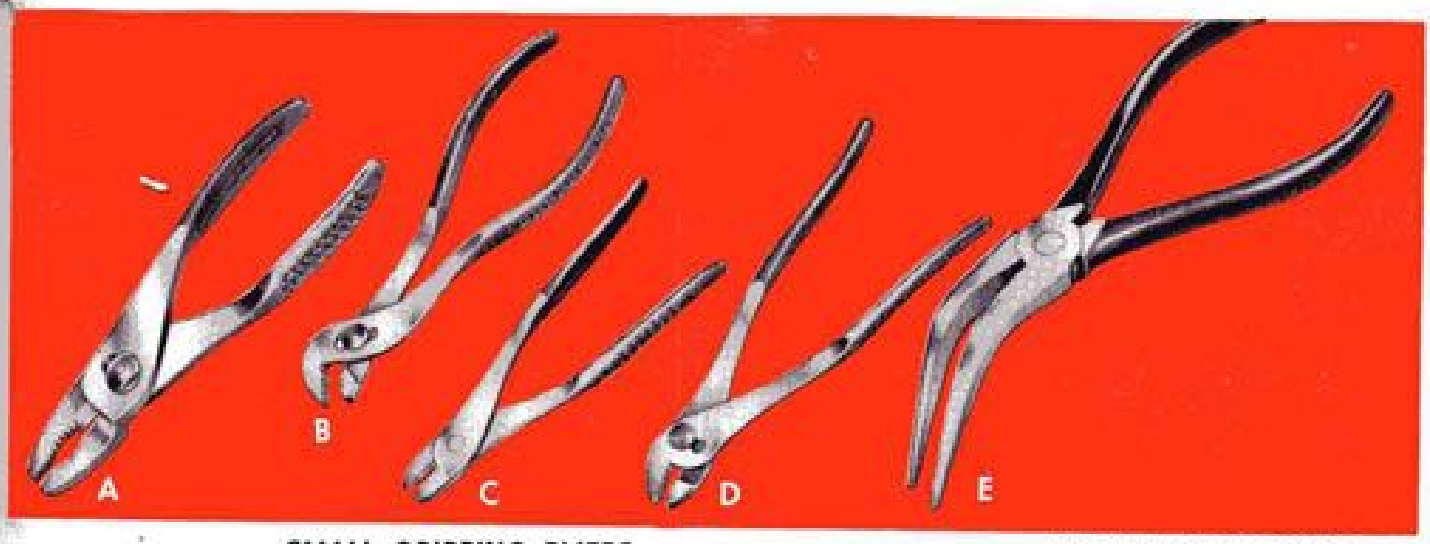
[B] **Heavy Duty Pliers.** Giants for gripping—general use pliers with 2-position slip-joints . . . notched type of wire cutters . . . full fashioned handles. There are many places where pliers of this type are time and labor savers and a set should be in every mechanics kit. Full nickel finish.

No. 46 6½" Heavy Duty Pliers.
No. 47 7½" Heavy Duty Pliers.
No. 49 9" Heavy Duty Pliers.

[C] **No. 137 7½" Heavy Duty Combination Pliers.** A popular favorite with automotive mechanics, combining powerful cutters with tremendous gripping strength . . . has a cutting capacity equal to lineman pliers. Non-slip, full fashioned handles. Full nickel finish.

[D] **Combination Pliers.** Excellent all-round general use cutting and gripping pliers which give you the working convenience of having powerful gripping jaws in combination with lineman-type cutters. Cutter edges are hand filed to assure perfect blade alignment and the sharp, deep teeth provide a firm grip on any shaped object. Sturdy bow handles afford powerful gripping and cutting leverage. Joint is the 2-position type. Full nickel finish.

No. 34 4½" Combination Pliers.
No. 35 5" Combination Pliers.
No. 36 6½" Combination Pliers.



SMALL GRIPPING PLIERS

Ⓐ **No. 65 5" Light Weight Grippers.** An exclusive Vacuum Grip design for general use . . . popular with flyers and airplane mechanics because of its slender design. Light in weight but built for Heavy Duty work . . . capacity far exceeds its size . . . Long thin pointed nose . . . powerful wire cutters . . . 2-position slip-joint. Nickel finish.

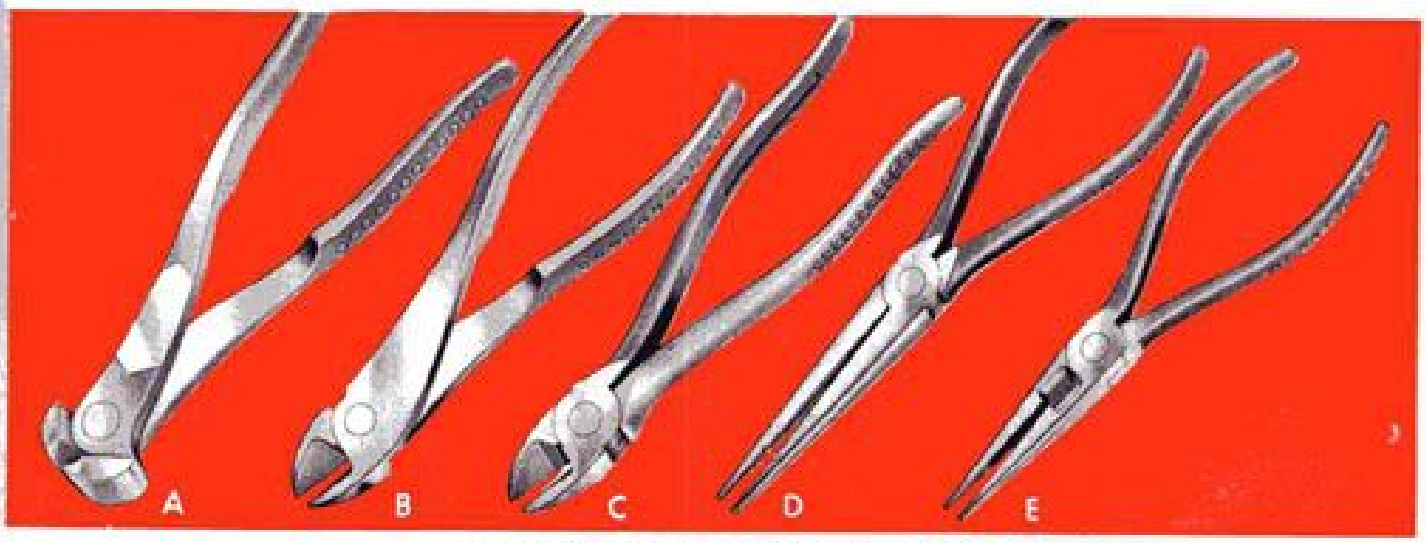
Ⓑ **No. 105 5" Ignition Pliers.** Midget Pliers with standard 3-position adjustable slip-joint. It's a dandy for servicing carburetor, ignition, radio, and other small jobs. Full nickel finish.

Ⓒ **No. 5 4½" Midget Pliers.** A useful little pair of pliers that can be used to excellent advantage on all extremely small work, radio, electrical, small bench jobs. Full fashioned handles.

Ⓓ **No. 50 5" Ignition Pliers.** The jaws are very narrow and are designed to reach in and turn the thin nuts found in distributors, voltage regulators, etc. The slight angle of the head assists when working around obstructions. Deep milled teeth assure a firm grip. 2-position slip joint permits a 1 5/32" maximum parallel jaw opening.

CURVED NOSE PLIERS

Ⓔ **No. 497 Curved Nose Pliers.** Here is a favorite plier with many mechanics throughout industry. The long tapered nose can be inserted into very small openings, and the bend in the jaws permits use of this plier where straight type needle nose pliers cannot operate. It also keeps the hand out of the line of vision and permits the operation to be more easily seen. Special heat treatment gives the nose spring strength and hardness and assures retention of alignment and gripping power. Smooth, wobble-free operation is assured by the precision machined joints.



CUTTERS AND NEEDLE NOSE PLIERS

Ⓐ **No. 17 7" End Cutters.** This improved type of end cutter has become the recognized standard of design and quality . . . hand filed cutting edges. Hammer forged from finest steels . . . hardened and tempered to provide maximum strength. Spring tempered bow handles. High steel buffed finish.

Ⓑ **No. 387 7½" Diagonal Cutters.** Handles tough cutting jobs with ease. The sturdy over-capacity cutter jaws make short shift of all jobs. A favorite with garage mechanics, industrial plants, wire box makers, etc. Cutter jaws are hand edged after tool is assembled to insure absolute accuracy in alignment and maximum efficiency. High steel buffed finish. Powerful, spring tempered, bow handles fit your hand and afford tremendous cutting leverage.

Ⓒ **Finest Diagonal Cutters.** Recognized as the highest quality diagonal cutters made . . . hammer forged from finest alloy tool steel . . . individually hardened . . . electrically and oil tempered through and through. Hand filed, perfectly matched cutter jaws. Joints are precision ground and fitted to give easy working but wabble-free action. Spring tempered full fashioned handles give powerful leverage for easy cutting and at the same time provide a comfortable non-slip grip. No. 87 is recommended for cotter pin work and for those tougher cutting jobs. Full steel buffed finish.

★**No. 184 4¼" Midget Cutters.**
No. 85 4⅞" Diagonal Cutters.
No. 86 6" Diagonal Cutters.
No. 87 7½" Diagonal Cutters.

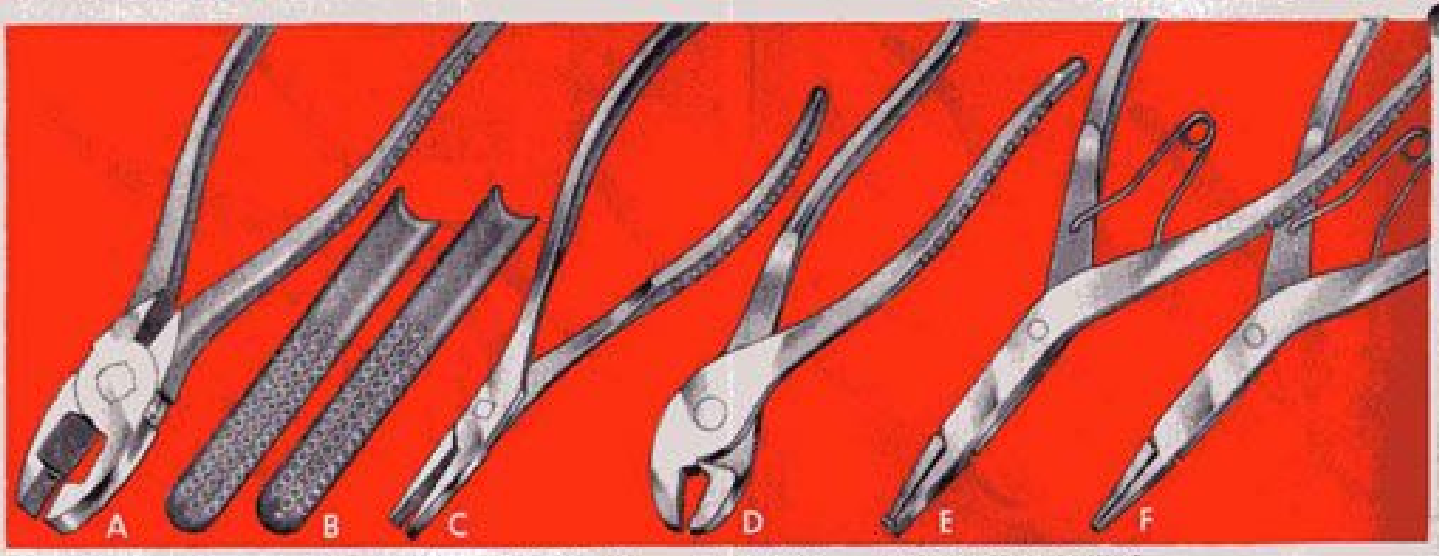
Ⓓ **No. 597 Pin Pliers.** Matched parallel and cross grooves in the jaw tips provide a sure grip for pulling stubborn pins. Long needle nose reaches into recesses. Bow handles, buffed steel finish, 7¾" long.

Ⓔ **Needle Nose Pliers.** Slender yet sturdy. The nose is especially heat treated to give spring strength and hardness and assure retention of jaw alignment and gripping power. Cutters on No. 196 are hand filed to meet perfectly. All models have bow handles. High steel buffed finish.

★**No. 94 4½" Midget Needle Nose Pliers.** Without wire cutter. Bow handles.

★**No. 96 7" Needle Nose Pliers.** Without wire cutter. Bow handles.

★**No. 196 7" Needle Nose Pliers.** With wire cutter. Bow handles.



LINEMAN . . . DUCKBILL . . . BATTERY . . . SNAP-RING PLIERS

A **Lineman Pliers.** Powerfully built tools for gripping, twisting, hammering, and cutting . . . hammer forged from finest alloy tool steel . . . hardened in liquid heat process . . . tempered in oil and subjected to a separate local electric tempering operation applied to the joints. Wire insulation stripper in handles. High steel buffed finish. Cutters are hand filed to give sharp, perfectly aligned blades.

No. 57R 7" Lineman Pliers.
No. 58R 8" Lineman Pliers.

B **Insulating Handle Grips.** Any 7" or 8" plier can be safely used to service electrically operated equipment when fitted with these plastic insulating grips. Easily attached to any shape handle. Have high di-electric strength and are shockproof to the average voltage encountered by lineman. Bright red.

PG-7C Pair of 7" Plastic Grips.
PG-8C Pair of 8" Plastic Grips.

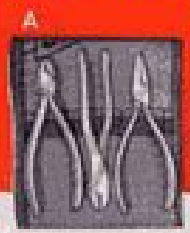
C **No. 60R 7½" Duck Bill Pliers.** Just the ticket for pulling the safety wires used to lock nuts on airplanes. The long, flat jaws have a fine serrating on the inside of the tips which will grip without chewing up the wire ends. These pliers are also extremely useful for many small repair jobs on radios, adding machines, typewriters, etc.

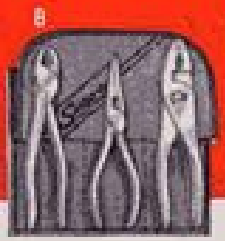
D **208 8" Angle Nose Battery Pliers.** Short, round nose jaws provide a powerful grip on the terminal nut and prevent damaging top of battery. Valuable for all general gripping purposes. Maximum jaw opening of 1½". The thin, tapered nose is offset at a 30° angle for working in awkward spaces. Full fashioned type handles.

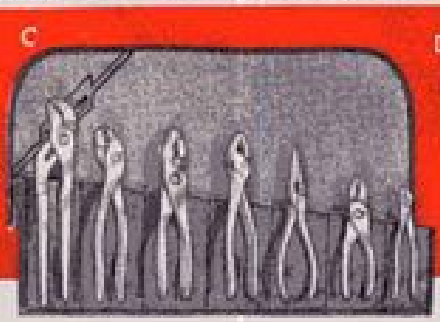
E **★No. 70A 7" Snap-ring Pliers.** Saves time and trouble when removing the horse shoe lock washer that fits over the anchor pin to hold the brake shoe in place. Jaw tips bend at a right angle and tips of jaws are serrated on the outside to prevent slipping. Spring holds the jaws in closed position. Steel buffed finish.

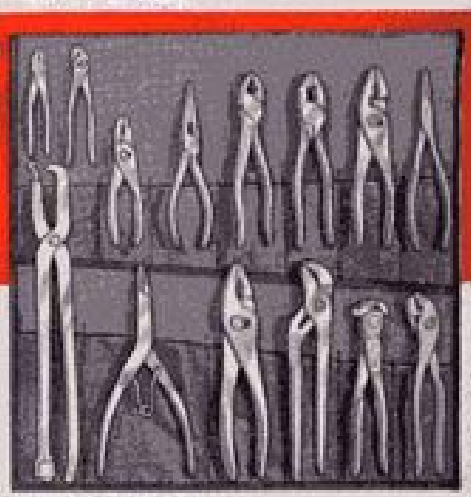
F **★No. 70B Snap-ring Pliers.** Similar to above but with straight jaws. Works in close place for easy removal of snap-rings. Steel buffed finish.

PLIER SETS FOR EVERY NEED









Keep Your Pliers Safe in a Strong Leatherette Kit Bag

No tools are used more frequently or misplaced more often than pliers, but if they are kept in kit bags, an empty pocket provides unmistakable warning that a tool is missing . . . gives you time to locate it before it is too late. Frequently tools of this nature are left on running boards or inside of the car. Search can be made there at once before the car is turned over to the customer. Here we offer four kits of pliers—among which you will find the kit best adapted to your service needs!

Midget Plier Set

PLM-30-K Plier Set. Above at left. An ideal set for home and shop—handles those tiny plier jobs. Contains 3 midget pliers in C-31A kit bag.

No. 5 . . . . 4½" Midget Gripping Pliers
No. 94 . 4½" Midget Needle Nose Pliers
No. 184 . . 4" Midget Diagonal Cutters

Basic Plier Set

PL-30-K Plier Set. Illustrated above (2nd from left) contains the three pliers most often used in everyday service work. This set contains the following pliers in C-34A kit bag.

No. 137 . 7½" H. D. Combination Pliers
No. 196 . . . . . 7" Needle Nose Pliers
No. 87 . . . . . 7½" Diagonal Cutters

PL-30 Set. Above Set, Pliers only.

Standard Plier Set

PL-70A-K Plier Set. This set contains pliers that will be needed in a large number of service cases—but it lacks some of the tools needed for specialized work. Next to the General Purpose Set shown at the right this is your best investment. It contains the following pliers in C-73A kit bag.

No. 9C . . . . . 9" Water Pump Pliers
No. 50 . . . . . 5" Ignition Pliers
No. 137 . 7½" H. D. Combination Pliers
No. 65 . . . . . 5" Light Weight Grippers
No. 87 . . . . . 7½" Diagonal Cutters
No. 196 . . . . . 7" Needle Nose Pliers
No. 208 . . . . . 8" Battery Pliers

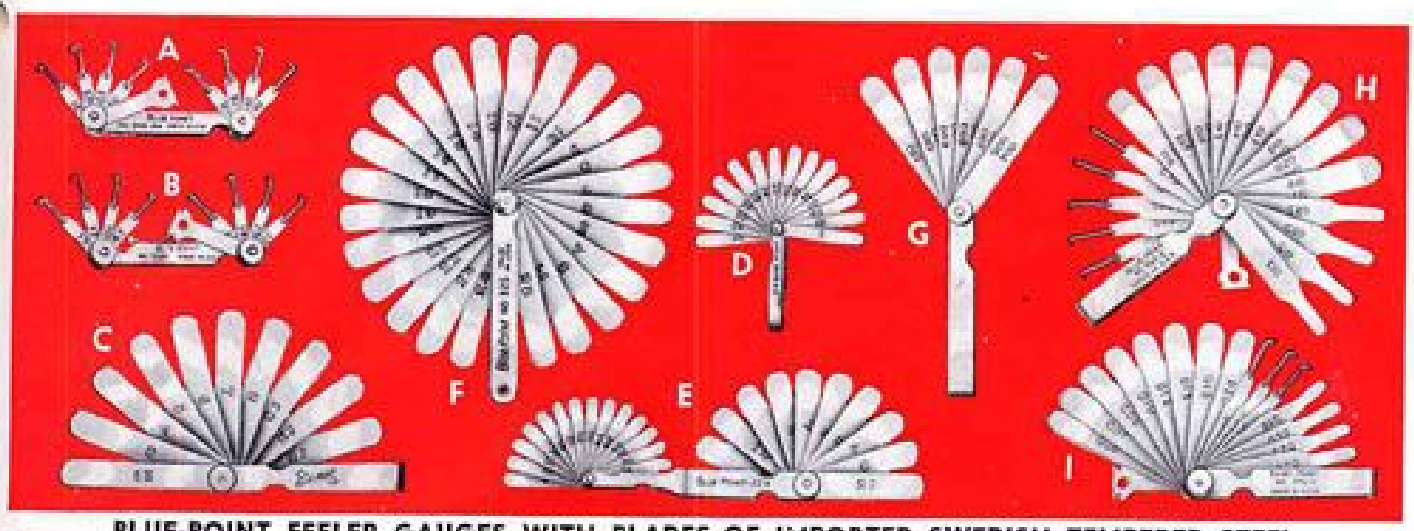
PL-70A Set. Above Set. Pliers only.

General Purpose Plier Set

PL-140A-K Plier Set. Contains just about every type of plier for general and specialized service. Complete in C-140A kit bag.

No. 9C . . . . . 9" Water Pump Pliers
No. 50 . . . . . 5" Ignition Pliers
No. 5 . . . . . 4½" Midget Gripping Pliers
No. 49 . . . . . 9" Heavy Duty Pliers
No. 137 . . . . . 7½" H. D. Combination Pliers
No. 65 . . . . . 5" Light Weight Grippers
No. 87 . . . . . 7½" Diagonal Cutters
No. 17 . . . . . 7" End Cutters
No. 196 . . . . . 7" Needle Nose Pliers
No. 208 . . . . . 8" Angle Nose Battery Pliers
No. 57R . . . . . 7" Lineman's Pliers
No. 70A . . . . . 7" Brake Key Pliers
No. 131 . . . . . (Page 89) Brake Pliers
No. 60R . . . . . 7½" Duck Bill Pliers

PL-140A Set. Above Set, Pliers only.



BLUE-POINT FEELER GAUGES WITH BLADES OF IMPORTED SWEDISH TEMPERED STEEL

All blades are tested for accuracy. Gauges are equipped with knurled nut permitting user to slide out the required blade and lock it in position.

A ★**No. 309-AW Aviation Wire Gap Gauge** with eight sizes, .010, .012, .015, .018, .020, .022, .025, .030 and an electrode bender.

B ★**No. 309-W Automotive Wire Gap Gauge** with eight sizes, .022, .025, .027, .028, .030, .032, .035, .040 and an electrode bender.

★Extra wires in any of above sizes are available at all times.

C ★**310 Standard Feeler Gauge.** Ten blades 3¾" long in following thicknesses: .003, .004, .005, .006, .007, .008, .010, .012, .013 and .015.

D ★**314 Ignition and Spark Plug Gauge.** Fourteen fingers 1⅜" long in the following thicknesses: .008, .010, .012, .013, .015, .018, .020, .022, .024, .025, .028, .030, .032, .035.

E ★**324 Combination Feeler and Ignition Gauge.** Ten 2½" blades and fourteen 1⅜" fingers. Blade thicknesses: .003, .004, .005, .006, .007, .008, .010, .012, .013, and .015. Fingers: .008, .010, .012, .013, .015, .018, .020, .022, .024, .025, .028, .030, .032, .035.

F ★**325 General Use Feeler Gauge.** Contains the following 3¾" Blades. Sizes—.0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025.

G ★**356 Step Feeler Gauge.** Contains six 3⅝" blades with a ⅛" step. .004-.006, .005-.007, .006-.008, .007-.009, .008-.010, .010-.012.

Extra Blades and Fingers

★We can supply extra blades in regular thicknesses, in 3¾" or 2½" lengths and in fingers 1⅜" length.

H ★**359-B Ford Feeler Gauge.** Contains three spark gap bent wire feelers .025, .028, .030; two straight wire feelers for voltage regulator cutout; four ignition taper blades .012, .015, .020, .025; nine step-ground blades .010-.012, .011-.013, .012-.014, .013-.015, .014-.016, .015-.017, .016-.018, .017-.019, .018-.020 and an electrode bender.

I ★**379-C Chevrolet Feeler Gauge.** Contains eight 3¾" blades in thicknesses of .006, .007, .008, .010, .012, .013, .015, .020; four finger blades .018, .020, .022 and .024; three wire gap gauges .032, .035 and .040 and an electrode bender.

12" Strips

★Following sizes of feeler gauge stock are available in 12" strips: .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .015 and .018.

BALL PEEN HAMMERS

A Quality from start to finish, these sturdy, well balanced hammers are correctly designed, balanced, and heat treated to make them the most serviceable for all around work. Drop forged from high grade alloy steel, they will withstand long, hard use. The handles are securely anchored in the heads and are made of selected second growth, well seasoned hickory, carefully turned so that the grain runs full length of handle to give maximum strength and resiliency. Extra handles can be purchased as listed below—each comes complete with two metal and one wood wedge.

Hammer Complete		Extra Handle
Stock No.	Weight	Stock No.
7/0	2 oz.	★7-O-H
5/0	4 oz.	★5-O-H
3/0	8 oz.	★34-O-H
2/0	12 oz.	★012-O½H
0	1 lb.	★012-O-H
1	1½ lbs.	★012-O-H
2	1½ lbs.	★24-H
4	2 lbs.	★24-H
6	2½ lbs.	★68-H
8	3 lbs.	★68-H

CELLULOSE TIP HAMMERS

B For fitting piston pins, wrist pins, gears, bearings, etc., or for tapping valves in blocks or any other kind of work where precision finished or delicate parts would be injured by metal hammers.

The tips are tough plastic and will stand a lot of pounding without undue marring of the faces . . . tips are easily replaced when necessary. Three sizes are available. Center part of head is enameled steel.

Hammers Complete		Extra Tips		Extra Handles
Stock No.	Weight	Stock No.	Tip Diam.	Stock No
★81-PH	¼ lb.	★81-PH-1	1¼"	★81-PH-1
★82-PH	1 lb.	★82-PH-2	1¾"	★81-PH-1
★683	2 lbs.	★683-A	1½"	★683-H

UPHOLSTERER'S HAMMER

C ★**No. 602 Upholsterer's Hammer.** Will prove useful in any shop, especially those doing body work. The steel head is 5½" long with a "split-type" magnetic tip on one end and a larger flat face on the other. Weighs 7 oz. . . . over-all length 10½".

★**No. 602-2** Extra Handle Only.

FEELER GAUGE HOLDER

D **H-312 Feeler Gauge Holder** Here is a holder which is extremely useful for jobs where it is difficult to reach the parts to be gauged. The tool is ten inches long and holds two of the twelve inch feeler strips listed above. A two inch length of each gauge protrudes at opposite ends of the holder and as a gauge is shortened it is slid along inside the holder and gripped in the jaws by means of the sliding end clamps.

PUTTY KNIFE SCRAPERS

Here are the tools you need to do those tough, messy scraping jobs. Excellent for removing old gaskets, paint, undercoating compound, hardened grease, etc. The alloy steel blades are ground to uniform thickness for proper degree of stiffness and "mirror" finished for easy cleaning and to retard rusting. Plastic handles are light weight and practically unbreakable . . . they do not shrink and are securely fastened with tubular steel rivets.

E **PK-11 Bent Scraper.** 1¼" blade.

F **PK-12 Straight Scraper.** 1½" blade.

G **PK-13 Chisel Edge Scraper.** 1 5/16" blade.

Blue-Point "SUPREME" CHISELS AND PUNCHES ARE

FLAT CHISELS

[a] Perfectly balanced. Have hand-ground cutting edges beveled at the best angle for long edge life and fast cutting on the average type of work. Can be re-edged with a file quickly when necessary. CAUTION. Machine grinding may overheat the steel and ruin the temper.

No.	Square Stock	Edge	Length
S-812	5/16"	5/16"	5½"
S-816	3/8"	3/8"	6"
S-820	7/16"	7/16"	6½"
S-824	1/2"	1/2"	7"
S-828	9/16"	9/16"	8"

[b] CAPE CHISELS

Number	Square Stock	Edge	Length
★S-13	5/16"	5/16"	5½"
★S-14	3/8"	3/8"	6"

[c] ROUND NOSE CAPE CHISEL

Number	Square Stock	Edge	Length
★S-12	5/16"	5/16"	6"

[d] DIAMOND POINT CHISELS

Number	Square Stock	Edge	Length
S-15	5/16"	5/16"	6"
S-16	3/8"	3/8"	6½"

CENTER PUNCHES

[e] Forged from tough steel, heat treated and tempered for hardness.

S-3C 3/16" Square Stock, 5" Length.
S-4C 7/16" Square Stock, 6" Length.

DRIFT PUNCHES

[f] For finishing the job of removing pins or bolts already started with the Starter Punches. Never start a pin with a drift punch. It is not designed for such work. Use a Starter Punch to loosen the pin and finish pushing it through with a Drift Punch. The full length of shaft is the same diameter.

Stock No.	Square Stock	Point	Length
★S-102	1/4"	1/4"	4½"
★S-104	5/16"	5/16"	4½"
S-106	3/8"	3/8"	5"
S-108	7/16"	7/16"	5½"
S-110	1/2"	1/2"	5½"

STARTER PUNCHES

[g] When driving out pins, bolts, etc., always begin the job with a "Starter" punch. Shaft tapered from tip to handle.

Stock No.	Square Stock	Point	Length
★S-202	1/4"	1/4"	5½"
S-204	5/16"	5/16"	6½"
S-206	3/8"	3/8"	6½"
S-208	7/16"	7/16"	6½"
S-210	1/2"	1/2"	6½"

PIN PUNCHES

[h] Pin Punches have a short drift end and then taper out. They are especially useful for driving out short pins.

Stock No.	Square Stock	Point	Length
★S-602	1/4"	1/4"	5"
★S-604	5/16"	5/16"	5½"
S-605	3/8"	3/8"	5½"
S-606	7/16"	7/16"	5½"
S-608	1/2"	1/2"	5½"
S-610	9/16"	9/16"	5½"

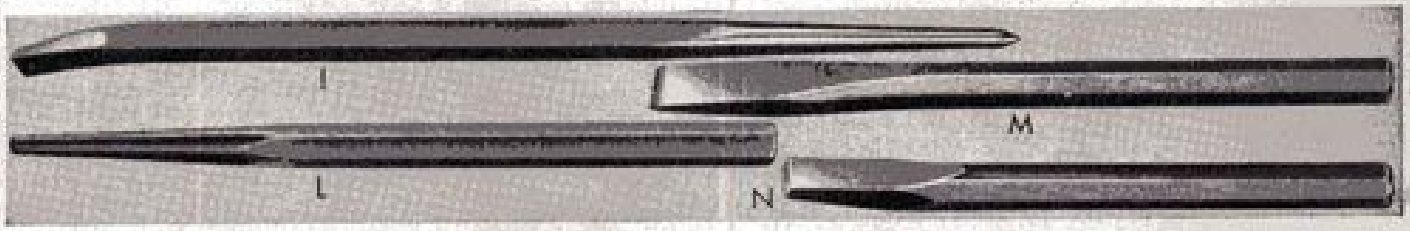
LONG TAPERED PUNCHES

[i] These punches are invaluable for all kinds of lining up work . . . carefully drop forged and finished to give long, lasting service. It will pay you to get the entire set.

Stock No.	Square Stock	Point	Length
S-805	1/4"	1/4"	8"
S-806	5/16"	5/16"	8½"
S-808	3/8"	3/8"	8½"
S-810	7/16"	7/16"	8½"
S-812	1/2"	1/2"	8½"

LONG LINING-UP PUNCH

[j] ★S-714. Here is a long lining-up punch especially designed for assembly work. Body and fender mechanics will find it useful for lining up holes in fenders, frames, bodies, etc. Center point can be used for punching holes in metal. 9/16" square stock, 3/32" point, 9 13/16" taper, 14" overall length.



JIMMY OR PINCH BARS

[l] Pinch Bars hammer forged from high grade alloy steel tempered for great strength. Octagon shank.

No.	Stock	Edge	Length
1112	3/4"	3/4"	11"
1518	7/8"	7/8"	18"
2424	1"	1"	24"

LONG PUNCHES

[m] For heavy duty work—good for industrial and farm machinery shops, etc. Hammer forged.

No.	Stock	Tip	Taper	Length
1210	5/8"	3/8"	4"	10"
1512	3/4"	1/2"	6"	12"
1818	7/8"	5/8"	6"	18"

LP-30 Set. Above 3 tools only.

LONG FLAT CHISELS

[n] Valuable wherever long reach is necessary. Hammer forged. Tempered for long wear.

No.	Stock	Edge	Length
1020	3/4"	3/4"	11"
1024	7/8"	7/8"	15"
1028	7/8"	7/8"	19"
1032	1"	1"	19"

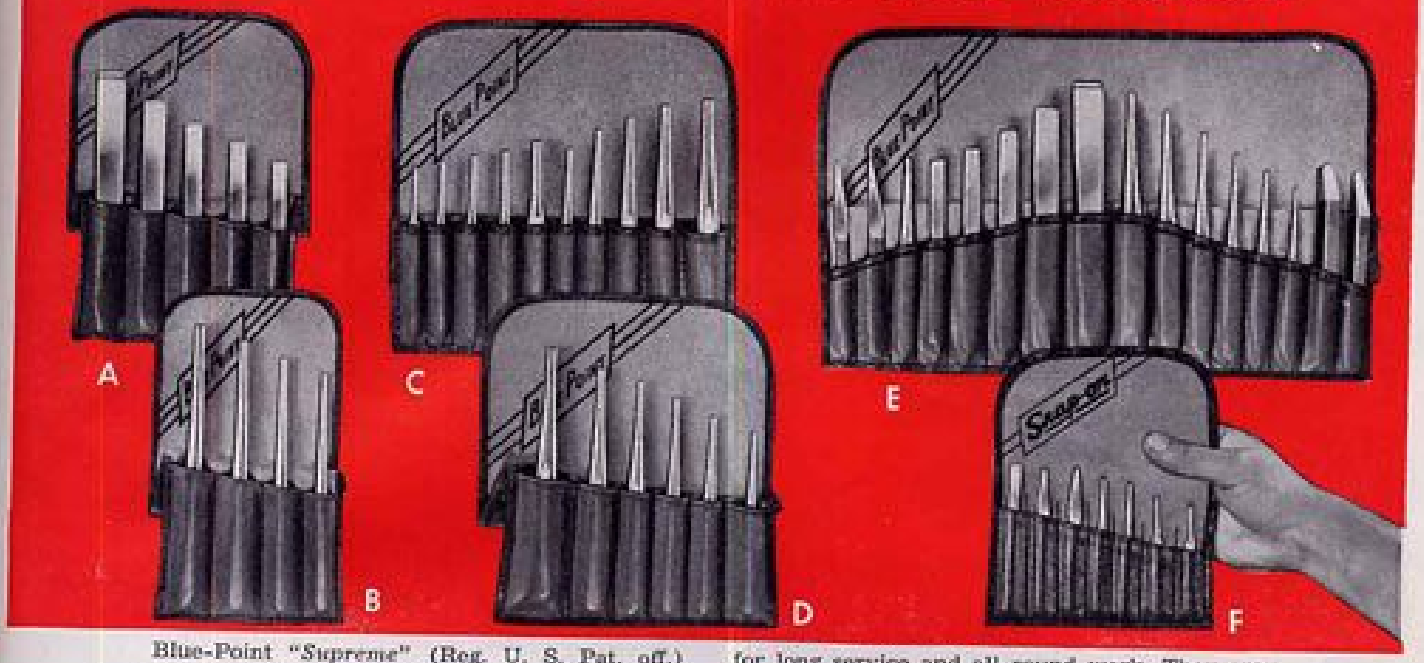
LFC-40 Set. Above 4 tools only.

RIVET BUSTER

[o] Use a rivet buster on rivet heads and save your chisels. A chisel cannot catch the rivet head at the best point for easy removal . . . a rivet buster is specially shaped to contact at the right point and angle to shear the heads clean off.

RB-10 Rivet Buster. 30" long, 3/4" stock, 3/8" x 1/4" edge.

AMAZINGLY TOUGH, STRONG AND DURABLE



Blue-Point *"Supreme"* (Reg. U. S. Pat. off.) chisels and punches will out-cut and out-punch similar tools made from ordinary steels because the combination of metallic alloys and high carbon content in the steel we use produces qualities of amazing strength and toughness. Chisels and punches, if made too hard, will break . . . if made too soft they will flatten over. Blue-Point *"Supreme"* Chisels and Punches are tempered to give the best hardness and toughness for long service and all round work. They are hammer forged at low temperature to refine the grain and preserve the carbon which gives strength and hardness to the steel. Sanded finish square handles with full rounded corners give a firm grip and solid drive and prevents them from rolling when you lay them down. Replace old relics with a set of these high quality tools.

CHISEL AND PUNCH SETS

Flat Chisel Set

A **SC-50-K Set** consists of five chisels: S-812, S-816, S-820, S-824, S-828, in C-50A kit bag.
SC-50 Set. Tools only.

Long Tapered Punch Set

B **SLTP-40-K Set.** Consists of four punches—S-905, S-908, S-910, S-912 in C-52A kit bag.
SLTP-40 Set. Tools only.

Starter and Drift Punch Set

C **SSD-100-K Set.** Consists of 10 tools: five Starter Punches: S-203, S-204, S-206, S-208, S-210; five Drift Punches—S-103, S-104, S-106, S-108, S-110, in C-104A kit bag.
SSD-100 Set. Tools only.

Pin Punch Set

D **SP-60-K Set** consists of following six punches: S-603, S-604, S-605, S-606, S-608, S-610 complete in sturdy leatherette C-60A kit bag.
SP-60 Set. Tools only.

"SUPREME" Chisel and Punch Set

E **SCP-160-K Set.** The 16 tools in this *"Supreme"* chisel and punch set are those usually needed for general work. Consists of five chisels, S-812, S-816, S-820, S-824, S-828; and six Pin Punches, S-603, S-604, S-605, S-606, S-608, S-610; two Diamond Point Chisels, S-15, S-19; S-13 Cape Chisel; S-12 Round Nose Chisel; S-4C Center Punch. Complete in leatherette kit bag C-160A.
SCP-160 Above Set. Tools only.

Midget Punch and Chisel Set

F **★SVP-70-K Set.** Seven midget *"Supreme"* quality punches and chisels. 5/32" square stock, ideal for tiny jobs. Includes: ★SVP-402 Drift Punch 3" long, 5/32" pt.; ★SVP-403 Drift Punch 3½" long, ⅛" pt.; ★SVP-404 Center Punch 3⅝" long; ★SVP-405 Starter Punch 3⅝" long, 1/16" pt.; ★SVP-406 Cape Chisel 3⅝" long, 5/16" edge; ★SVP-407 Round Nose Cape Chisel 4" long, 5/32" wide; ★SVP-408 Flat Chisel 4¼" long, 5/16" edge. Complete in C-72A kit bag.

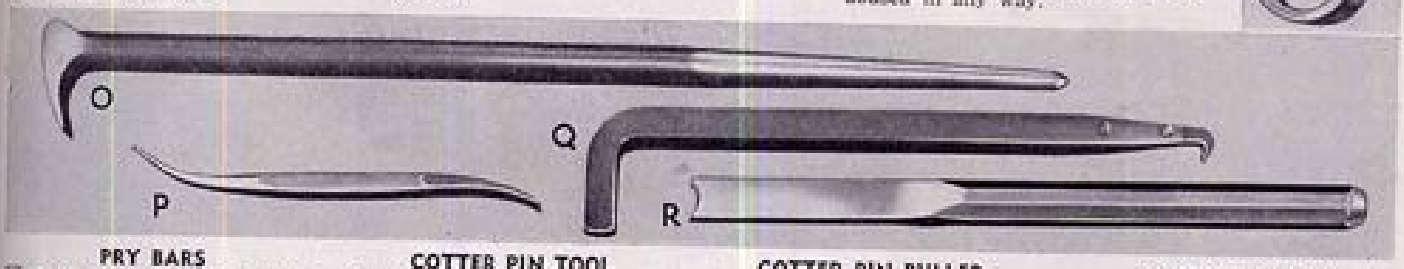
CHISEL AND PUNCH HOLDER

Here's a tool which can save you many a bruised knuckle or mashed thumb and prevent chisels and punches from dropping into hard-to-reach spots. It grips any tool or other item up to 1" diameter. Simply insert the tool to be held and tighten the handle with a wrench or bar and tighten the lock nut. 8½" long, 1⅝" head diameter, 1 1/16" head thickness.

CG-50 Chisel and Punch Holder.
CG-50-1 Handle and lock nut only.
CG-50-2 Head only.

GUARANTEE

Every Blue-Point Chisel and Punch is tested with rigid instructions to reject for the slightest visible defect of material or workmanship. We will replace any tool that, in the reasonable usage for which it was designed, proves defective in workmanship or material, provided that claim for replacement be made within thirty days from date of purchase. No replacement will be made of tools which have been ground or abused in any way.



PRY BARS

O Rolling head exerts tremendous leverage for prying work . . . often used for prying out gears, etc. Point useful for lining-up work. Hammer forged from fine alloy steel.
1250 Pry Bar. 12" long, 5/16" stock.
1650 Pry Bar. 16" long, 9/16" stock.
2050 Pry Bar. 20" long, 11/16" stock.

COTTER PIN TOOL

P **★S-6P Cotter Pin Tool.** An excellent tool for spreading and removing cotter pins . . . can also be used to great advantage for inserting water pump packings, etc. Hammer forged from *"Supreme"* chisel steel with square bevel shank for easy handling and firm grip. Overall length 6⅝", 5/16" stock.

COTTER PIN PULLER

Q **★S-9094A Cotter Pin Puller.** Will pull every pin no matter how tight it is. Insert hook end into cotter pin. Hit anvil end sharply, out comes pin. Hook is of tough steel pinned in place and can be replaced easily. Overall length is 19".

★S-9094A2X Hook and rivet set.

BUSHING CUTTER

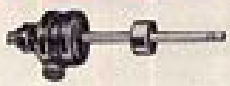
R **★GA-1 Bushing Cutter.** For splitting soft metal bushings in housings, steering sectors, spindles, pistons, connecting rods, etc., made from ½" octagon stock, 7½" long, 3/16" by 3/16 bit. Curved bit pushes the cut material away from the work.

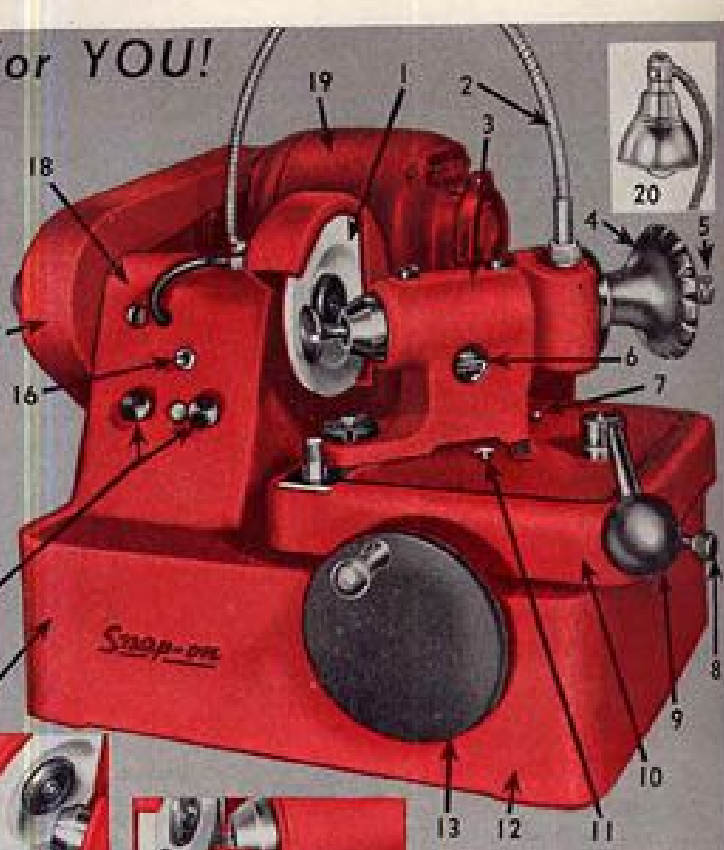
Here's A Money Maker for YOU!

Snap-on's

Wet Valve Refacer

WET GRINDS ALL VALVE ANGLES FROM ZERO TO 90 DEGREES AND UP TO 3½" HEAD DIAM.





Above Left: The VR-2M118 Micrometer Butt Grinding Attachment shown installed on the Valve Refacer is needed for Ford valves without adjustable valve lifters. This is optional equipment and includes the micrometer feed assembly, 46 grit wheel, wheel guard, coolant hose, tappet holder and a depth gauge. Installation is simple and easily made if the attachment is ordered separately.

Above Right: Rocker arm grinder attachment comes with your refacer . . . it has two self centering cones which adapt it to all sizes of rocker arms including the Chrysler V-8 line.

Above: Diamond stone dresser comes with refacer and fits onto the rocker arm bracket . . . it dresses both face and side of the valve refacer wheel.

Left: The V-rest for butt grinding is used in place of the rocker arm bracket.

DOES A FAST PRECISION GRINDING JOB ON VALVE FACES—VALVE STEM BUTTS—TAPPET FACES—ROCKER ARMS

Efficient Operation Is Assured by These Superior Features

1. VR-2M87 80 grit wheel of highest quality.
2. Flexible shaft drive assures constant speed ratio between wheel and valve.
3. VR-2W33 true-center, double-grip collet handles stems 5/32" to 9/16" diameter . . . assures accuracy within .001" at 1" from spindle nose.
4. Fast action wheel locks valve in collet.
5. Valve stop is set once for complete valve series, doubles as work head wrench.
6. Work head has oil level window.
7. Refaces any valve angle from 0° to 90° with quickset, positive stops for 14, 15, 19, 30, 29, 30, 44, 45, 59, and 60 degree angles.
8. Adjustable stop keeps valve stem and spindle from contacting grinding wheel.
9. Right hand operation. Control lever position is adjustable.
10. Lathe-type ways for smooth action are self adjusting—wear "in" not "out."
11. Easy lubrication adds years of service.
12. Heavy, cast base assures rigid strength.
13. Large hand wheel controls feed.
14. Removable, baffled coolant tank traps grinding sediment.
15. Coolant is circulated by vane type pump. Separate controls determine flow to either wheel.
16. Motor switch is easy to reach.
17. Belt and pulleys have safety guards.
18. Spindle shaft has permanently lubricated ball bearings.
19. Individually balanced armature and rubber mounted motor assures smooth power and vibrationless operation.
20. Flexible light fixture is available as optional equipment. If required it should be ordered with the refacer and installed at the factory.

Replacement and Optional Equipment

VR-2M118 Micrometer Butt Grinding Attachment, complete as described above.

VR-2M63 60-Grit 5" diameter face grinding wheel for soft valves.

VR-2M87 80-Grit 5" diameter standard face grinding wheel.

VR-2M88 Diamond tipped screw.

VR-2M89 46-Grit 4" diameter wheel for butt grinding attachment.

VR-2W33 5/32"-9/16" collet.

VR-2W34 1/8"-3/8" collet.

VR-2W35 1/2"-11/16" collet.

Light Fixture—must be ordered with refacer as listed below.

16 VARIOUS MODELS AVAILABLE—ORDER BY STOCK NUMBER

MODELS AVAILABLE	Motor ½ H.P. 115 Volt 1 Ph. 60 Cy. AC	Motor ½ H.P. 220 Volt 1 Ph. 60 Cy. AC	Motor ½ H.P. 115 Volt Universal AC-DC	Motor ½ H.P. 220 Volt Universal AC-DC
Standard Model	VR-200	VR-201	VR-202	VR-203
With Light Fixture	VR-200L	VR-201L	VR-202L	VR-203L
With Butt Grinder Attachment	VR-200 M	VR-201 M	VR-202 M	VR-203 M
With Butt Grinder Attachment and Light Fixture	VR-200L M	VR-201L M	VR-202L M	VR-203L M

SNAP-ON VALVE-CAB

KR-311 Valve-Cab. Provides an excellent base for your Valve Refacer as any such grinding equipment should be mounted separately to avoid vibration from other machinery.

Gives you plenty of room for all your valve seat grinding equipment, accessories and valve tools. Valve rack extensions are removable . . . drawer and doors have tumbler-type locks. Electric connection panel has 3-wire inlet plug and two outlets and electric cable can be coiled on a rack on the rear of the cab. Easy rolling 3" rubber casters. Dimensions—30" long, 20" wide, 28" high, height from floor 31". Drawer is 24" x 19" x 4¼". Net weight 115 lbs, shipping weight 131 lbs.

VALVE SERVICE TOOLS

OVERHEAD VALVE ADJUSTING TOOL

[A] **V-21E Valve Adjusting Tool.** Convenient to use and a big time saver on those overhead rocker-arm tappet adjusting jobs. The proper size socket is snapped onto the square drive, and with the motor idling, it is inserted over the lock nut . . . the knob handle is pushed down to engage the screw driver blade in the screw slot and the adjusting and locking operation performed easily and quickly. Handle is 7½" long to afford leverage and hand clearance.
The tool is furnished with a large knob handle as shown above. A smaller knob is also available for use on cars where the clearance on those tappets next to the firewall is very limited.
The knobs snap onto a milled square and are held in place by means of a locking button for easy interchanging. The tool is designed to hold either our present 4 way grip ½" square drive sockets or previous types having the side hole type of grip.

[B] **V-21F2 Small Adjusting Knob** for above valve tool.

SCREW TYPE VALVE LIFTER

[C] **CF-49 Valve Lifter.** Short and compact—only 9½" long, this tool gets into tight spots and works on most "L" head engines including Ford sixes up to 1952.
Top jaws are adjustable for various spring sizes. Bottom jaw is made of flat steel riveted to the frame of the lifter. Lifting capacity of the tool is 2¾". Jaws remain parallel at all times and lift the spring without binding or slipping to a height which allows room for access to the valve stem keys.
Jaws lock open at any point leaving your hands free to remove the keys. On Pontiac or other engines having valve spring guides, the guides must be turned to clear the jaws of the lifter.

BLUE-POINT VALVE SPRING COMPRESSORS

[E] **Valve Spring Compressors.** These sturdy tools service late model cars without removing the manifold. The handles sit high on the frame out of the way of obstructions and compress on the downward push with 3 to 1 leverage. A sliding ring locks the tool in position leaving both hands free for key removal or replacement.
The threaded shaft adapts to various valve stem lengths and the shaft foot has spring loaded centering point to grip the valve head tightly.

CF-18 Valve Compressor. Inside depth 10¾", width 12", opening capacity with offset jaws 10½". Complete with three pairs of jaws, CF-21P Straight, CF-22BP offset and CF-23P Extra Heavy Straight type listed below. A large heavy duty tool.

CF-118 Valve Compressor. Inside depth 10¾", width 9½", opening capacity with offset jaws 10". Complete with CF-22BP offset jaws, CF-21P and CF-23P straight jaws.

COMPRESSOR JAWS

CF-21P.....Pair Straight Jaws **CF-22BP**.....Pair Offset Jaws
CF-23P.....Pair Extra Heavy Straight Jaws

CADILLAC VALVE LIFTER ADAPTOR

[D] **CF-26 Cadillac Valve Lifter Adaptor.** Use with the compressors listed above for servicing Cadillac cars. Opening in side allows use of CF-7A Key Replacer shown below. Can also be used on some Waukesha engines.

VALVE SPRING COMPRESSORS

[A] **CF-18 Valve Spring Compressor.** A sturdy and efficient tool with adjustable jaws for practically all diameter valve springs. The handle link is made with two positioning holes for adjusting the tool for complete compression of different length valve springs. This valve spring compressor is only 9½" long, but it compresses the stiffest springs easily and quickly and is most useful for replacing and removing springs in late model cars having fenders in close to the motor. A sliding ring locks the tool with the valve spring compressed at any preferred position.

[B] **VL-30 Overhead Valve Spring Compressor.** Designed for fast, efficient operation on Chevrolet and all other overhead valve engines with springs up to 1⅜" in diameter and 2¾" in length. The single-action lever compresses the spring and locks securely—all in one motion—leaving both hands free to remove or replace the valve keys.
A sliding wedge under the handle adjusts to three positions to vary the jaw capacity. The round-finished end provides a smooth surface for the palm of the hand when inserting the jaws between the springs. Cold rolled channel steel construction makes it a sturdy tool.

VALVE KEY REPLACER TOOL

[C] **CF-7A Valve Key Replacer.** The narrowest, most compact tool ever perfected for replacing all split type valve keys easily and quickly. It requires a very minimum of work space. The sliding base absolutely prevents the keys from dropping into the motor while being replaced . . . Easy to load . . . Easy to use—you'll find yourself doing the job in less time than you ever thought possible.

HYDRAULIC VALVE LIFTER PULLER

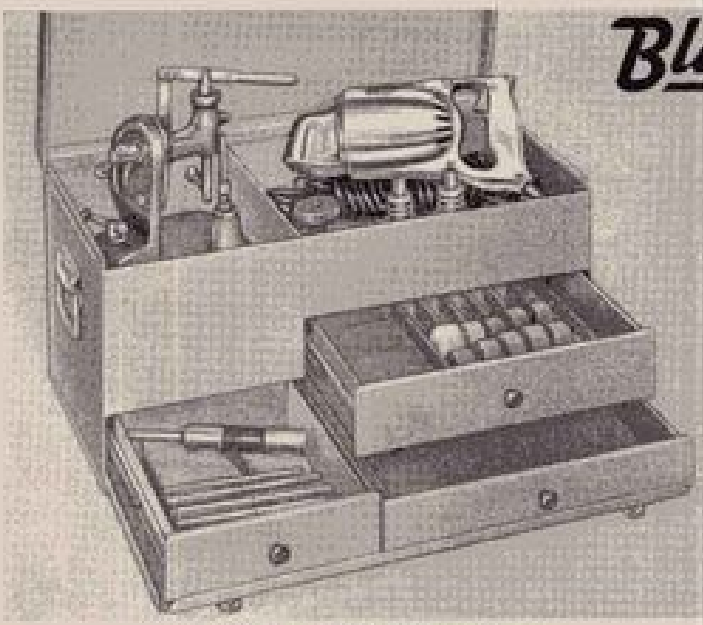
[D] **S-9830 Hydraulic Valve Lifter Puller.** A time saving, efficient tool for removing the hydraulic valve lifters from Buick and Chevrolets. The hook is inserted into the oil outlet hole of the lifter, and the center sleeve is then threaded over the jointed section onto the top of the lifter. This locks the hook in the lifter and makes the parts a rigid unit. Tapping the plastic handle brings the spring of the tool into play, providing a gentle shocking action which eases the lifter upward and out.
As the valve lifter is raised, the spring tension may be increased to afford greater shock action by lowering the adjustable collar under the handle. The hook is easily replaced if necessary.
★**S-9830-4A Replacement Hook**

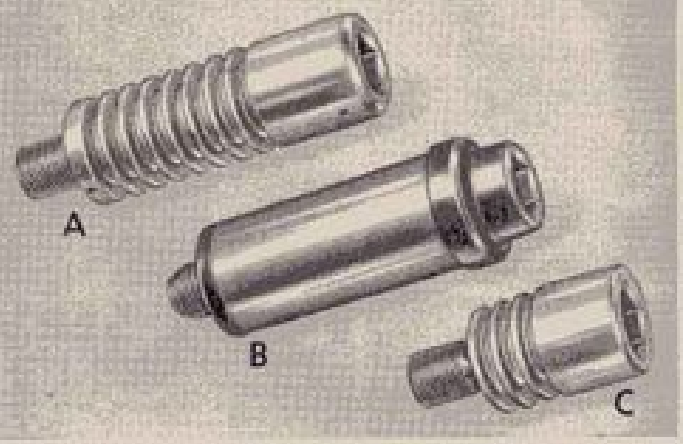
VALVE AND VALVE GUIDE PULLER

[E] **CJ-95 Valve Puller.** This versatile tool pulls either Ford valve assemblies or stuck valves with head diameters up to 1⅜", on most cars or trucks regardless of valve angle. A ball-joint arrangement allows the pressure screw to swivel in the yoke and automatically center itself over the valve. This means direct pulling action with no binding of parts at any time.
The two legs of the puller can also be placed in any position to miss the studs or cylinders without affecting the operation.
For easier operation, the thrust nut rides on a ball bearing. A ⅜" Ratcheting Boxocket is recommended for turning the thrust nut and a ⅝" wrench is required to hold the pressure screw. The pulling head has tapered jaws to aid in sliding them under the head of the valve. This unit is used in conjunction with the CJ-95-8 (listed below) for pulling valve guides.

[F] **CJ-95-8 Valve Guide Puller Shank.** Slips into the pulling head of the CJ-95 (listed above) to remove valve guides with a minimum of time and effort. The shank diameter is only 5/16" and will fit through most valve guides used today. The knurled nut has an outside diameter of ⅝".

Blue-Point VALVE SEAT
FOR FAST, ACCURATE





VALVE SEAT GRINDER SET

VG-120B-B Valve Seat Grinder Set. Here's the set which gives you an easier, faster way to grind valve seats. It handles both hard and soft seats and is so simple to use that any mechanic can turn out valve jobs equal to factory standards. The set contains all of the units listed at the right complete in the red enameled KR-100A special metal case as shown above. The heavy duty angle drive motor is remarkably fast and its snub-nose drive reaches those valve seats close to the firewall. Every unit in the set is illustrated and described on this and opposite page. The combination of features contribute to give the very finest valve seat grinding.

VG-120B Set. Above set without the case.

VG-120B-B Set Contains

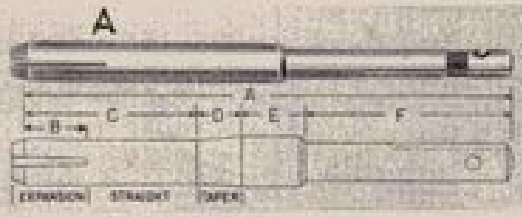
VG-11A	Angle Drive Motor
★**VG-10-2D**	Stone Carrier (2 included)
VG-25A	Diamond Stone Dresser
★**VX-1**	Pilot Wrench
★**VX-10**	5/16" Pilot
★**VX-11L**	31/32" Pilot
★**VX-12**	3/8" Pilot
★**VX-14**	7/16" Pilot
★**VS-90**	Ford "V8-85" Pilot
★**SE-520-F**	1 3/8" x 45° Stone
★**SE-520-R**	1 3/8" x 45° Stone
★**SE-560-F**	1 3/4" x 45° Stone
★**SE-560-R**	1 3/4" x 45° Stone
★**CI-480**	1 1/2" x 45° Stone
★**CI-483**	1 1/2" x 30° Stone
★**CI-520**	1 3/8" x 45° Stone
★**CI-560**	1 3/4" x 45° Stone
★**CI-563**	1 3/4" x 30° Stone
★**CI-600**	1 7/8" x 45° Stone
KR-100A	Metal Cabinet

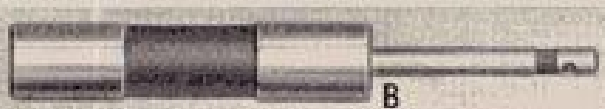
STONE CARRIERS

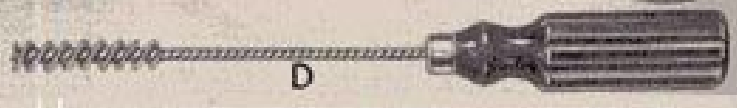
(A) **VG-10-2D Standard Stone Carrier** has pre-oiled bearings for long service. The socket in the stone carrier is spring mounted to allow a vertical vibrating action of the stone which prevents undue pressure on the stone and with the centrifugal force, throws out the grindings. Cooling fins dissipate heat and prevent the carrier from seizing on the pilot. Perfect alignment of stones assures absolutely concentric seats.

(B) **VG-15 Ball Bearing Stone Carrier.** Recommended for shops which need a heavy duty carrier for very frequent use. A ball-bearing mounted inner sleeve slips over the Blue-Point pilot and a spring engages the pilot slot and prevents the inner sleeve from rotating. The outer sleeve to which the stones are attached, rides on these bearings assuring smooth operation and long life. Bearings are sealed and do not require lubricating. Overall length 4 5/8". Use with VG-11A Motor (page 63) and pilots and stones listed below.

(C) ★**VG-10-2S Short Stone Carrier.** You'll be able to "get-in" between the block and firewall of Kaiser-Frazer cars to grind the last valve seat if you use this carrier and the VX-11S Short Pilot (listed below) with the VG-11A Motor. Can also be used on other cars where clearance problems exist and standard units are a little too long. Overall length is 2 15/16".







(A) BLUE-POINT PILOTS

These self-energizing pilots lock securely and center correctly, because each segment acts independently, compensating for wear in its own portion of the guide hole—accommodates guides worn up to .008". Valve guide hole should be cleaned before inserting pilot.

Stock No.	Guide Size	Dimensions in Inches A	B	C	D	E	F
★**VX-8**	1/4"	4 1/8	3/8	1 1/8	1/4	—	3 1/8
★**VX-9**	5/16"	4 1/2	7/16	1 3/8	5/16	—	3 1/4
★**VX-10**	3/8"	5 1/4	7/16	1 3/8	5/16	—	3 1/4
★**VX-10S**	3/8"	4 3/8	7/16	1 3/8	5/16	—	3 1/4
★**VX-10L**	3/8"	6 1/4	7/16	1 3/8	5/16	1/2	3 1/4
★**VX-11**	7/16"	5 1/4	7/16	1 3/8	5/16	—	3 1/4
★**VX-11S**	7/16"	4 1/2	7/16	1 3/8	5/16	—	3 1/4
★**VX-11L**	7/16"	6 1/4	7/16	1 3/8	5/16	1/2	3 1/4
★**VX-12**	1/2"	6	7/16	1 3/4	5/16	—	3
★**VX-12S**	1/2"	4 1/2	7/16	1 3/4	5/16	—	3 1/4
★**VX-12L**	1/2"	7 1/4	7/16	1 3/4	5/16	1	3 1/4
★**VX-13**	9/16"	6	7/16	1 3/4	5/16	—	3
★**VX-13U**	20/32"	5 1/4	7/16	2	5/16	—	3 1/2
★**VX-13L**	20/32"	7 1/4	7/16	2 1/4	5/16	1	3 1/4
★**VX-14**	5/8"	6 1/4	1	2 1/4	5/16	—	3
★**VX-14M**	5/8"	7 1/2	1	2 1/4	5/16	—	3 1/4
★**VX-14L**	5/8"	8 1/2	1	2 1/4	5/16	1 5/16	3 1/4
★**VX-16**	3/4"	6 1/4	1	2 1/4	5/16	—	3
★**VX-16L**	3/4"	8	1	2 1/4	5/16	1 5/16	3 1/4
★**VX-18**	7/8"	6 1/4	1 1/8	2 1/4	5/16	—	3
★**VX-18L**	7/8"	8	1 1/8	2 1/4	5/16	1 5/16	3 1/4
★**VX-19**	15/16"	5 1/4	1 1/4	1	5/16	—	3
★**VX-20**	1"	6 1/4	1 1/4	2 1/2	5/16	—	3
★**VX-22**	1 1/8"	6 1/4	1 1/4	2 1/2	5/16	—	3
★**VX-24**	1 1/4"	6 5/8	1 1/4	2 1/2	5/16	—	3 1/4

(B) ★**VS-90 Special Ford V-8 Pilot.** This special pilot is needed for Ford "V8-85" models previous to 1940. The entire valve assembly is removed and the pilot inserted in its place.

(C) BLUE-POINT STONES FOR EVERY VALVE SEAT JOB

One-third thicker than ordinary stones and give almost double the length of service. Threaded bushing extends part way through the stone and does not interfere with dressing operation before stone is fully used up.

Stone Size	Stone Thickness	For Cast Iron and Soft Steel 45°	30°	For Hard Steel and Stellite 45°	30°	For Finish Grinding 45°	30°
1 1/4"	1"	★**CI-400**	★**CI-403**	★**SE-400-R**	★**SE-403-R**	★**SE-400-F**	★**SE-403-F**
1 3/8"	1"	★**CI-440**	★**CI-443**	★**SE-440-R**	★**SE-443-R**	★**SE-440-F**	★**SE-443-F**
1 1/2"	1"	★**CI-480**	★**CI-483**	★**SE-480-R**	★**SE-483-R**	★**SE-480-F**	★**SE-483-F**
1 3/8"	1"	★**CI-520**	★**CI-523**	★**SE-520-R**	★**SE-523-R**	★**SE-520-F**	★**SE-523-F**
1 3/4"	1"	★**CI-560**	★**CI-563**	★**SE-560-R**	★**SE-563-R**	★**SE-560-F**	★**SE-563-F**
1 7/8"	1"	★**CI-600**	★**CI-603**	★**SE-600-R**	★**SE-603-R**	★**SE-600-F**	★**SE-603-F**
2"	1"	★**CI-640**	★**CI-643**	★**SE-640-R**	★**SE-643-R**	★**SE-640-F**	★**SE-643-F**
2 1/8"	1"	★**CI-680**	★**CI-683**	★**SE-680-R**	★**SE-683-R**	★**SE-680-F**	★**SE-683-F**
2 1/4"	1 1/4"	★**CI-720**	★**CI-723**	★**SE-720-R**	★**SE-723-R**	★**SE-720-F**	★**SE-723-F**
2 3/8"	1 1/4"	★**CI-760**	★**CI-763**	★**SE-760-R**	★**SE-763-R**	★**SE-760-F**	★**SE-763-F**
2 1/2"	1 1/4"	★**CI-800**	★**CI-803**	★**SE-800-R**	★**SE-803-R**	★**SE-800-F**	★**SE-803-F**
2 5/8"	1 1/4"	★**CI-840**	★**CI-843**	★**SE-840-R**	★**SE-843-R**	★**SE-840-F**	★**SE-843-F**
2 3/4"	1 1/4"	★**CI-880**	★**CI-883**	★**SE-880-R**	★**SE-883-R**	★**SE-880-F**	★**SE-883-F**
2 7/8"	1 1/4"	★**CI-920**	★**CI-923**	★**SE-920-R**	★**SE-923-R**	★**SE-920-F**	★**SE-923-F**
3"	1 1/4"	★**CI-960**	★**CI-963**	★**SE-960-R**	★**SE-963-R**	★**SE-960-F**	★**SE-963-F**
3 1/4"	1 1/4"	★**CI-1000**		★**SE-1000-R**		★**SE-1000-F**	

SMALL VALVE STONES

Required for some small automotive engines, tractors, some models of Continental Motors and for many of the smaller engines on air compressors, etc. They are universal grit . . . you rough grind and finish with the same stone. Dress to required angle before using.

★**UVS-32 Stone** 1" Dia. x 1 1/4"

★**UVS-36 Stone** 1 1/8" Dia. x 1 3/4"

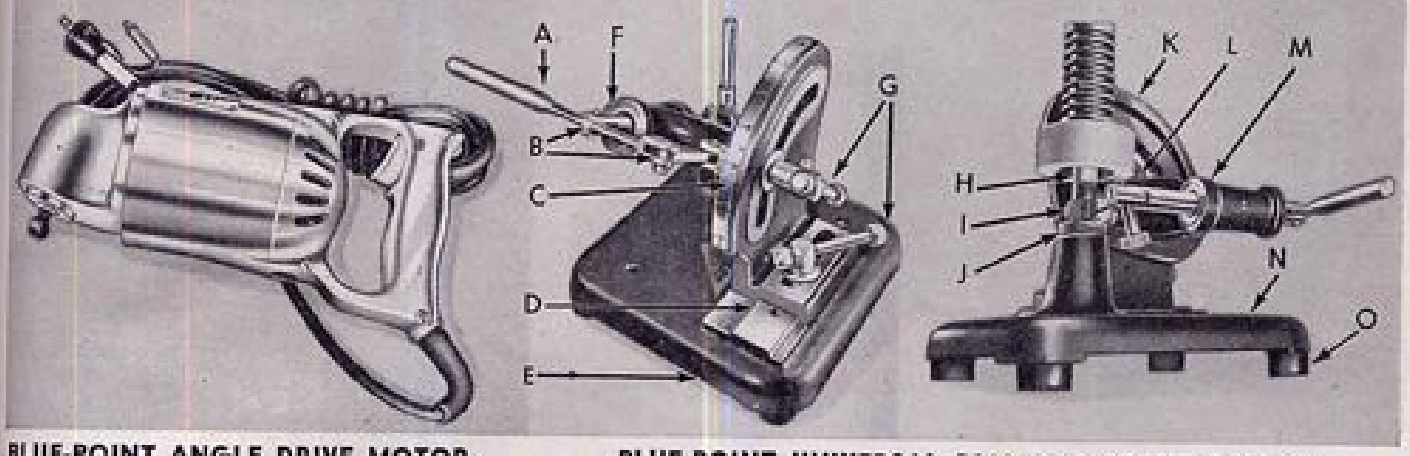
VALVE GUIDE BRUSHES

(D) These are extremely well made brushes of spiral design. Highest quality wire is securely woven into the twisted wire shank. Fluted wood handle provides a firm grip for your hand.

No.	Size
★**AC-10**	1/4"
★**AC-11**	5/16"
★**AC-12**	3/8"

GRINDER . . . THE FINEST MADE

RESURFACING ON HARD OR SOFT VALVE SEATS



BLUE-POINT ANGLE DRIVE MOTOR

VG-11A Angle Drive Motor. This compact tool gets at those valve seats right up against the firewall to do a good seat grinding job without removing the engine. The nose is very short and the hex driving ball extends at almost a right angle to the housing.

The powerful motor, with a free running speed of 12,000 RPM, maintains a load speed of 10,000 RPM. Ball bearings on the armature shaft and spindle are grease-sealed and permanently lubricated. An integrally mounted fan sucks in air by the handle and blows it around the motor and out around the nose to provide cooling action and assist in keeping the work free of grindings. All gears in the angle drive are lapped before and after assembly to assure a perfect mesh for long wear and smooth operation. Lubricating instructions are included with each tool.

Other features include cast aluminum housing, large handle with trigger switch that locks "on" for continuous operation, screw-type cable strain reliever and 15 feet of 3 conductor grease resistant rubber cable. Ground wire is "screw-tipped" for easy connection. VG-11A is a 115 volt, 60 cycle, AC-DC model drawing 5.5 amps. A 220 volt model, the VG-11A-220 is available on special order.

BLUE-POINT UNIVERSAL DIAMOND STONE DRESSER

VG-25A Diamond Stone Dresser. This completely universal tool dresses seat stones of all types, sizes and angles, it has every adjustment required to dress any valve seat grinding stone up to 6½" dia. x ¾" thick.

★VG-25-6 Replacement Diamond Screw.

Note these features:

A —Strong, comfortable handle for easy operation.

B —Handle joints are accurately machined to give smooth, wabble-free operation.

C —Large, easily read setting gauge and index is fastened to top of sliding plate —can be set quickly and accurately.

D —Three bolt stations and adjustable top plate provides a travel capacity, far greater than the diameter of largest valve seat stones.

E —Ruggedly built cast iron base 7½"x7½" is heavily ribbed for great rigidity. Original factory alignment is permanently assured.

F —Hardened plunger is ground to precision standards. A machined keyway guides the diamond screw.

G —Big bolt handles lock the units rigidly.

H —Collar provides additional stone height.

I —Threaded pilot adjusts stone height.

J —Knurled lock nut locks the pilot at the required stone height.

K —Contact faces of plates are machined to provide smooth operation and perfect alignment of parts. Spring tension in the index plates aids in setting.

L —The diamond tipped screw affords over a half inch of adjustment to stone diameter and for regulating cutting feed. Completely universal, it can be adjusted to dress the side, angle and bottom of any valve seat stone.

M —Each end of the plunger guide hole is sealed with leather packing to prevent the entrance of grit.

N —Holes are provided in base for permanently mounting the dresser.

O —Rubber feet minimize vibration.

BLUE-POINT VALVE LAPPING TOOLS

A **VL-90 Heavy Duty Valve Lapper.** A heavy duty air operated valve lapper that both oscillates and rotates the valve as it is being lapped into it's seat. Assures perfect mating of the parts with no high or low spots. Sturdy cast aluminum case for strength with light weight—designed to fit in the palm of the hand. Handy "trigger switch" is adjustable to regulate the speed of operation. Hardened shaft is mounted on a needle bearing and a thrust bearing for smooth, practically friction-free operation. Piston rides in a replaceable brass sleeve. Driving bit and spring are included. Operates on 85-125 pounds air pressure.

B **VL-60 Standard Valve Lapper.** This valve lapper is built for the garage or service shop doing intermittent valve work. Lighter in weight and construction than the VL-90. Oscillates and automatically rotates the valve during the lapping operation and works equally well on hard steel or stellite valve seats. Hardened steel shaft is mounted in oil impregnated bronze bearings. Case is an aluminum die casting with well rounded corners for a perfect palm-fit. Trigger is adjustable to regulate the speed to any lapping job. Complete with hardened steel driving bit and spring. Operates on 85-125 pounds air pressure.

C **VL-51 Hose.** Eight feet of rubber hose with ¼" pipe tap fittings. Fits VL-90 and VL-60 Valve Lappers.

D **VL-90-27 Valve Lift Spring.** Use under valve when using valve lappers.

VL-604A Valve Lapper Set. Consists of VL-60 Valve Lapper, VL-51 Hose, VL-53 Valve Lift Spring and VLC-40 Suction Cup.

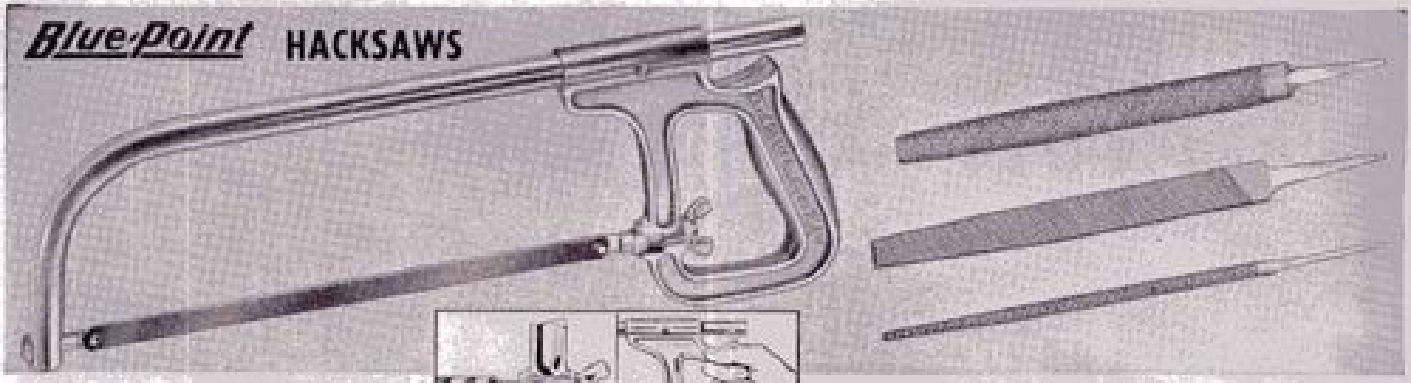
E **VX-1 Blue-Point Pilot Wrench.** Provides a convenient way of inserting and removing pilots from the valve guide hole. Two spring plugs lock in the hole in the end of the pilot—a push button centered in the knob handle releases the pilot.

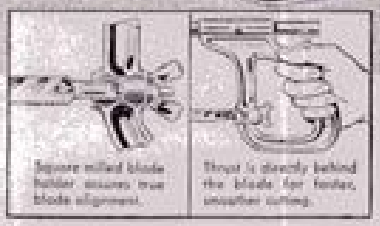
F **VG-2A Valve Lapper.** The sturdiest and smoothest operating tool of its kind. Heavy, machined, cast-iron housing for rugged use, all gears heat treated to resist wear, shaft has ball bearing thrust. Blade oscillates rapidly and advances ⅙ revolution with each turn of the crank. Tool includes one universal driving bit.

G **Rubber Suction Cups.** Hold non-slotted valves properly for lapping operation. High grade rubber shaped to grip tightly. Fit shafts of lapping tools shown above.

★VLC-40 1¼" Diameter Cup.
★VLC-56 1¾" Diameter Cup.

Blue-Point HACKSAWS

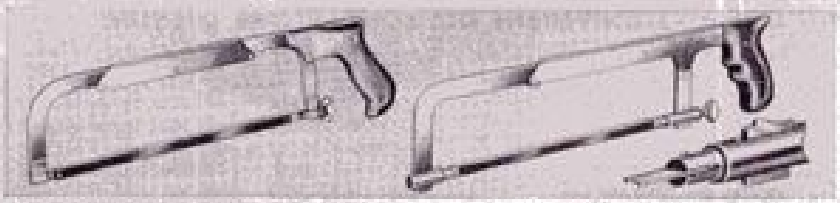




A PRECISION MACHINED ALL-METAL FRAME

Tube Steel with Aluminum Handle

★HS-9 Hacksaw Frame. Sturdily built for real performance. The one-piece steel tube back is fitted into a precision machined, cast aluminum handle giving extreme rigidity with light weight. True alignment of the blade is assured by the carefully machined square blade holders which fit into milled slots in the handle and frame as illustrated. Permits tightening the blade to eliminate side or vertical deflection. Large handle provides a comfortable grip. Easily adjustable to take either 10" or 12" blades. This is the finest frame we have ever offered.



STANDARD FRAME

★HS-10 Standard Hack Saw Frame. High grade Hack Saw, reasonably priced. A good all around tool rigidly built to keep the blade taut at all times. Comfortable, metal pistol grip means less hand fatigue. Grip is securely riveted to the frame—frame length is adjustable—accommodates any 10" or 12" blade.

EXTRA FINE FRAME

HS-21 Extra Fine Hack Saw Frame. So strong and rigid that frame twisting and blade chatter or kinking is almost impossible when used correctly. Slotted terminals prevent blade twist yet adjust to hold blade at any sawing angle. Terminals slide up the front legs to adapt the hacksaw to jobs having only two inch clearance. End stops on the legs prevent terminals from falling off during blade changing. Rear leg and handle base are one piece which transfers the push directly to the blade. Large plastic grips are modeled to fit the hand.

HIGH QUALITY HACKSAW BLADES

BLUE-POINT BLADES

These blades are made of a combination of tungsten and other alloy steels, heat treated by a special process making a blade that is hardened throughout yet is flexible. These are very good blades for standard cutting and, with proper use, will give long, satisfactory service.

Package (10 Bladed) Stock No.	Length	Teeth per Inch
★HSB-1032	10"	32
★HSB-1232	12"	32
★HSB-1024	10"	24
★HSB-1224	12"	24
★HSB-1018	10"	18
★HSB-1218	12"	18

HACKMASTER BLADES

Made of Molybdenum High Speed Steel with back of blade annealed to make it unbreakable. Tooth edge hardened for durability. May be used under all awkward sawing conditions. This is a non-breakable blade which withstands hard usage, even misuse, without shattering. Sharp twists and kinks, which are the main reason for saw breakage, are absorbed without damaging the blade.

Stock Number	Length in Inches	Teeth per Inch	Stock Number	Length in Inches	Teeth per Inch
★LMS-1018	10"	18	★LMS-1214	12"	14
★LMS-1024	10"	24	★LMS-1218	12"	18
★LMS-1032	10"	32	★LMS-1224	12"	24
			★LMS-1232	12"	32

HIGH QUALITY NU-CUT FILES

Made from the finest alloy steel and heat treated under controlled processes to assure that every file will pass rigid cutting and durability tests. You buy the best when you buy from Snap-on.

Length	Mill Stock No.	Half Round Stock No.	Round Stock No.	Round Diam.
6"	★ 6-M	★ 6-HR	★ 6-R	1/8"
8"	★ 8-M	★ 8-HR	★ 8-R	3/16"
10"	★10-M	★10-HR	★10-R	1/4"
12"	★12-M	★12-HR	★12-R	5/16"
14"	★14-M			
16"	★16-M			

WOOD FILE HANDLES

These handles have a metal ferrule molded right into the wood . . . preventing danger of splitting the handles. Gives sure grip and protects your hands.

★No. 102-E ..... Fits 6" to 8" Files
★No. 103-E ..... Fits 8" to 10" Files
★No. 104-E ..... Fits 12" to 16" Files

FLEX-STONES

Economical—long lasting—flexible—non-conductors of electricity—made from a plastic material imbedded with highly vitrified abrasive offer a better method of truing up ignition and spark plug points and will not break under side pressure.

★GA-3 **Flex-Stones.** (.050" thick). Package of 12.
★GA-43 **Thin Flex-Stones.** (.023"). Ideal for Voltage Regulator work. Package of 12.

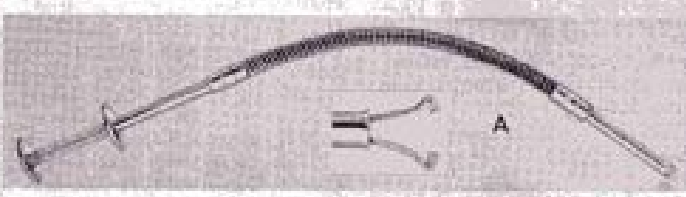
TUNGSTEN IGNITION POINT FILE

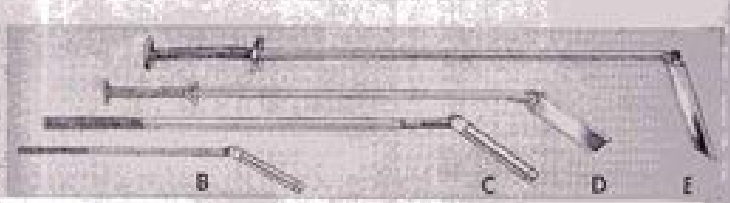
★S-TP **Ignition Point File.** A fine double-cut tungsten file, the type preferred by most mechanics for filing spark plug and distributor points . . . also useful in cleaning contact points of magnetos, bells, switches, radios, etc.

BLUE-POINT JUNIOR HACK SAW

★A-51 **Junior Hack Saw.** For use in very close quarters. Sturdily built to hold the blade with a powerful, non-bucking grip. Blades 6" x 7/16", 32 teeth to the inch. Complete with one blade.

★A-51-6 **Packet of twelve blades.**





FLEXIBLE "GRIP-IT" TOOL

These mechanical fingers reach into tight places to pick up dropped parts or tools or to insert small parts, start nuts or screws, etc. The plunger actuates two powerful spring steel jaws the ends of which are notched to give a secure grip. Strong flexible cable connects jaws to plunger.

(A) **715-FF Fully-Flexible "Grip-it".** 15" long, with an 8" flexible section. Bends into a double "S" or a double right angle and still grips any object tightly in the jaws.

MAGNETIC PICK-UP TOOLS

Powerful permanent Alnico magnets are fitted to the ends of brass sleeves. The small outside diameters of the sleeves, 3/8" for the PT-9 and 1/2" for the PT-27 enables them to slip into small openings with ease, while the hinged heads give around-the-corner accessibility as well. Picks up any small iron or steel object.

(B) **PT-9 Small Pick-up.** Lifts 2 oz. Length 9 1/4".

(C) **PT-27 Large Pick-up.** Lifts 24 oz. Length 14 1/2". Sliding handle extends to 27".

INSPECTION MIRRORS

The mirror can be inserted past obstructions and then turned to the best viewing angle by pushing the plunger . . . it locks at the desired angle and returns to the straight position when the locking lever is tripped. One hand holds and operates the tool.

(D) ★GA-51 **Large "Mirror-View".** 17 3/8" long.
★GA-51-1 Extra 1 3/8" x 2 3/4" mirror for GA-51.

(E) ★GA-52 **Small "Mirror-View".** 10" long.
★GA-52-1 Extra 1 1/4" x 1 1/16" mirror for GA-52.

CENTRAL MICROMETERS . . . *Certified Accuracy*

Reasons Why Central Micrometers Excel in Accuracy and Service

Certified Accurate Measurement—Each micrometer carries with it certification and guarantee of initial and enduring accuracy.

Super-Sensitive Velvet Touch—Designed with sensitive adjustment for close tolerance work . . . readily adjusted to a light touch or a heavy touch.

Extra Sturdy Construction—Anvil spindle and screw of finest quality tool steel. Anvil and spindle faces are extra hard to prevent wear.

Forged Steel Frames—Drop forged of alloy steel to withstand hard usage.

Matched Frame and Screw—Spindle and screw are lapped and fitted into each micrometer individually to assure positive and uniform movement, throughout the entire range of movement.

Certified Parallelism and Squareness—Specially designed precision equipment and lapping process assure correct geometrical line-up of parts.

Easy Reading Graduations—All graduations are accurately machine spaced, clear-cut, and of uniform width and depth for easy reading.

A **CM-40R 0"-4" READ-RITE Micrometer.** As the micrometer is adjusted to the work, numbers appear in the thimble windows and incorrect readings are almost impossible. Graduations .001". Fitted with ratchet friction stop and lock nut. Three interchangeable extensions and gauges are furnished. Each extension is individually adjustable to compensate for wear and has a knurled collar for easy handling. The anvil has a crowned face to aid in measuring round objects. Complete in lined fitted case as shown, except wrench is not included.

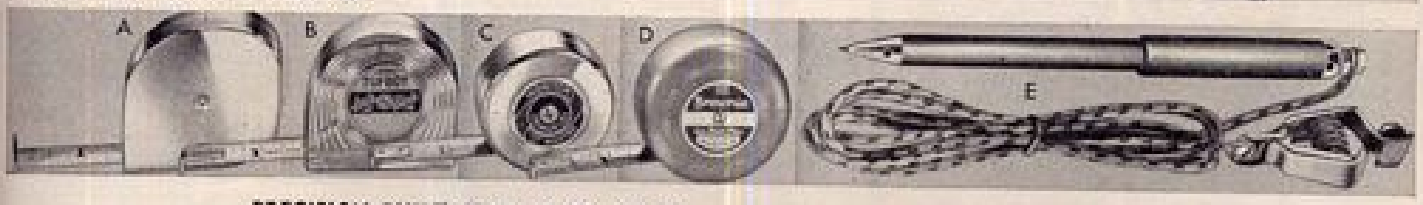
B **CM-12 0"-1" Micrometer.** Graduations .001". Fitted with ratchet friction stop and lock nut as shown. Standard barrel markings. Packed in cardboard box.

CM-22 0"-2" Micrometer. Graduations .001". Fitted with ratchet friction stop and lock nut. Standard barrel markings. Packed in cardboard box. Not illustrated—available on special order.

CM-15 1½"-2½" Connecting Rod Journal Micrometer. Not shown—available on special order. Especially useful for automotive shops. Graduations are located on underside of barrel to aid in reading micrometer while it is on the job. Comes packed in cardboard box.

C **CM-51 0"-5" Main Bearing Journal Micrometer.** Measures journals up to 5" diameter without removing crankshaft from engine. Journal wear or out-of-round is easily detected and replacement inserts accurately selected. Saves time and eliminates valve gear retiming. Machined from solid tool steel with hardened and ground points. Complete in lined case as shown.

CM-10 1½"-8" Inside Micrometer Set. Not shown—available on special order. Set includes Micrometer, holder, necessary extensions and wrench in lined case.



PRECISION-BUILT STEEL TAPE RULES

Blades withstand exceptionally hard wear and outlast ordinary rules. First 6" is engraved in 32nds, rest of the blade in 16ths and each blade is engraved several inches past the six foot mark. Wind-up spring aids in retracting the blade. Blades are replaceable. Cases can be taken apart for cleaning.

A **★406 6' Steel Tape Rule.** A very fine tool with a cam lever lock built into the case to hold the blade in the measured position, this allows you to remove the rule from the job for accurate reading. Open case top allows easy inside measurements. Tempered steel rule has markings etched on both sides.

★406-1 6' Blade for above rule.

B **★306W 6' Steel Tape Rule.** The steel tape has a white moisture and acid proof enameled finish with large jet-black figures and markings. The unbreakable die cast zinc alloy case is exactly 2" wide making inside measurements easy to figure.

★604BW 6' White Blade for above rule.

★310W 10' Steel Tape Rule. Same as 306-W but 10' long.

★310WB 10' White Blade for above rule.

B **★306 6' Steel Tape Rule.** Unbreakable die-cast zinc alloy case is 2" wide, simply add 2" to dimension shown on rule for inside measurements. Figures and markings permanently etched on tempered steel blade.

★604B 6' Blade for above rule.

★308 8' Steel Tape Rule. Same as 306 but 8' long. Available on special order.

★804B 8' Blade for above rule.

★804BW 8' White Blade for above rule.

C **★206A 6' Steel Tape Rule.** A narrow rule in a flat surfaced, round steel case that is kind to your pocket. Only ⅝" wide. Markings permanently etched on the tempered steel blade.

★206AB 6' Narrow Blade for above rule.

D **★116 6' Steel Tape Rule.** A favorite with engineers, draftsmen and others who use a steel rule at office or home. High quality blade has etched markings. Brown Tenite plastic case.

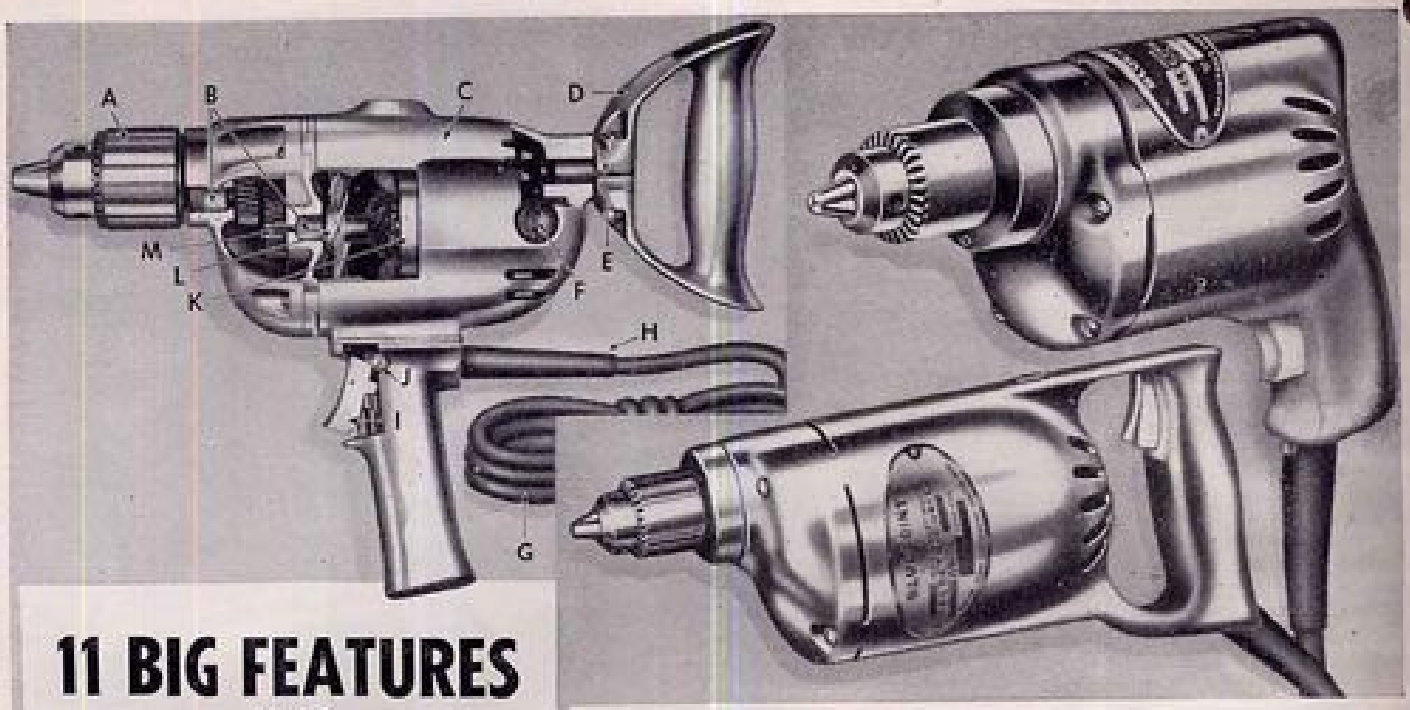
★604 6' Blade for above rule.

ETCHING PENCIL

E **GA-39 Etching Pencil.** Personalize your equipment and cut down loss by etching your name or other identification marking on your tools. You can do it quickly and easily with this etching pencil. Simply connect the alligator clip to the negative post of a battery and lay the tool to be marked on the positive post, or if the battery is in the car lay the tool on some metal part of the car and connect clip to ungrounded post. Touching the point of the pencil to the tool will cause the needle to vibrate and etch the metal as you guide the pencil.

STEEL RULE

★**GA-2 6" Steel Rule.** Stiff tempered, with ground edges, ¾" wide, .035" thick, graduated in 32nds on one edge and 64ths on the other. Decimal equivalents etched on back.



11 BIG FEATURES

MAKE

Blue-Point

ELECTRIC DRILLS

THE BEST TO OWN AND USE

(A) **3-Jaw Geared Chucks** used on Blue-Point drills are heavier than those used on most drills . . . your assurance of long service life. Threads on the spindle shaft are precision ground to fit perfectly and insure minimum chuck runout.

(B) **Ball Bearing Construction.** Blue-Point drills are 100% ball bearing equipped except models ED-16, ED-64, ED-76, and ED-88. These four models have ball bearings plus a bronze bearing after the intermediate gear. Ball bearings are permanently lubricated and sealed from dust and grit.

(C) **Cast Aluminum Housing.** Gives great strength with light weight . . . well rounded corners make them comfortable to operate. Removable pipe handle is furnished on the larger models.

(D) **Spade Type Swivel Handle** on the larger models is easily adjustable to any position or removed entirely for use in drill stands. One screw mounted in the pinch type band (E) makes this speedy adjustability possible.

(F) **Cartridge Type Brush Holders** flush with the case are easily accessible and removable to facilitate brush inspection or replacement.

(G) **Heavy Duty Cable** is 3-conductor type with unbreakable plug, Rubber covered and treated to resist oil, grease and wear.

(H) **Cable Strain Reliever** is provided by a thick molded taper on the cable which prevents the cable from kinking and breaking where it enters the handle.

(I) **Convenient Trigger Type Switch,** two-pole type, is incorporated in the pistol grip handle of all models for greatest operating ease. A switch lock (J) with quick release is also provided.

(K) **Extra Powerful Motor.** The universal 115-volt AC-DC motor in each Blue-Point Drill is heavier and more powerful than motors in competitive drills of equal capacity. This extra power means greater starting torque plus added stamina for rugged work.

(L) **Superior Cooling Features.** The construction of Blue-Point drills and an extremely efficient fan make them cool running. The fan sucks in cool air through the rear ventilating ports, around the motor and out of the front ports away from the operator. Chips and dirt are blown away from the drill.

(M) **Helical Gears Throughout** are machined of chrome molybdenum steel, helical cut for greater tooth contact and smoother operation, carefully heat-treated to give maximum service.

Models ED-26A, ED-32, ED-38. At Top—Model ED-22

BLUE-POINT ELECTRIC DRILLS

MIDGET 1/4" ELECTRIC DRILL

Model ED-22. Here is a little drill that packs a lot of power and punch, yet is so compact that you can hold it in the palm of your hand. It is so small, only 8½" long, that you can bring drilling speed and power into the closest places—gets in wherever your fist will fit. A great favorite with men and women doing assembly work requiring fast accurate drilling operations. Has lock button for continuous operation. Equipped with 7B ¼" capacity geared chuck. KH-7 key and 7½ feet of 3-conductor cable and plug.

HEAVY DUTY 1/4" CAPACITY DRILL

Model ED-26A. A sturdy, powerful drill for constant heavy duty work. Built for production and assembly lines as well as for garages where it is widely used for drilling frames, fenders, motor blocks, etc. You'll like the extra power, fine balance and trouble-free performance it will render. Equipped with 7B ¼" capacity geared chuck. KH-7 chuck key and 7½ feet of 3-conductor cable and plug. Specifications are given in the table below.

HEAVY DUTY 5/16" CAPACITY DRILL

Model ED-32. A full powered drill for all purpose production use. Compact design and light weight, only 7¼ pounds, combine to make it a favorite for plant maintenance and repair work. Equipped with 30B 5/16" capacity geared chuck. KH-30 chuck key and 7½ feet of 3-conductor cable and plug. See table below for the specifications of this drill.

STANDARD 3/8" CAPACITY DRILL

Model ED-38. This is a general purpose drill that has found wide acceptance in garage and machine shops. It combines the power factor and extra chuck capacity for larger, heavier work with the light weight, balance and design of the smaller sizes of drills. Equipped with 2B ⅜" capacity geared chuck. KH-2 chuck key and 7½ feet of 3-conductor cable and plug. See specifications below.

SPECIFICATIONS FOR ABOVE DRILLS

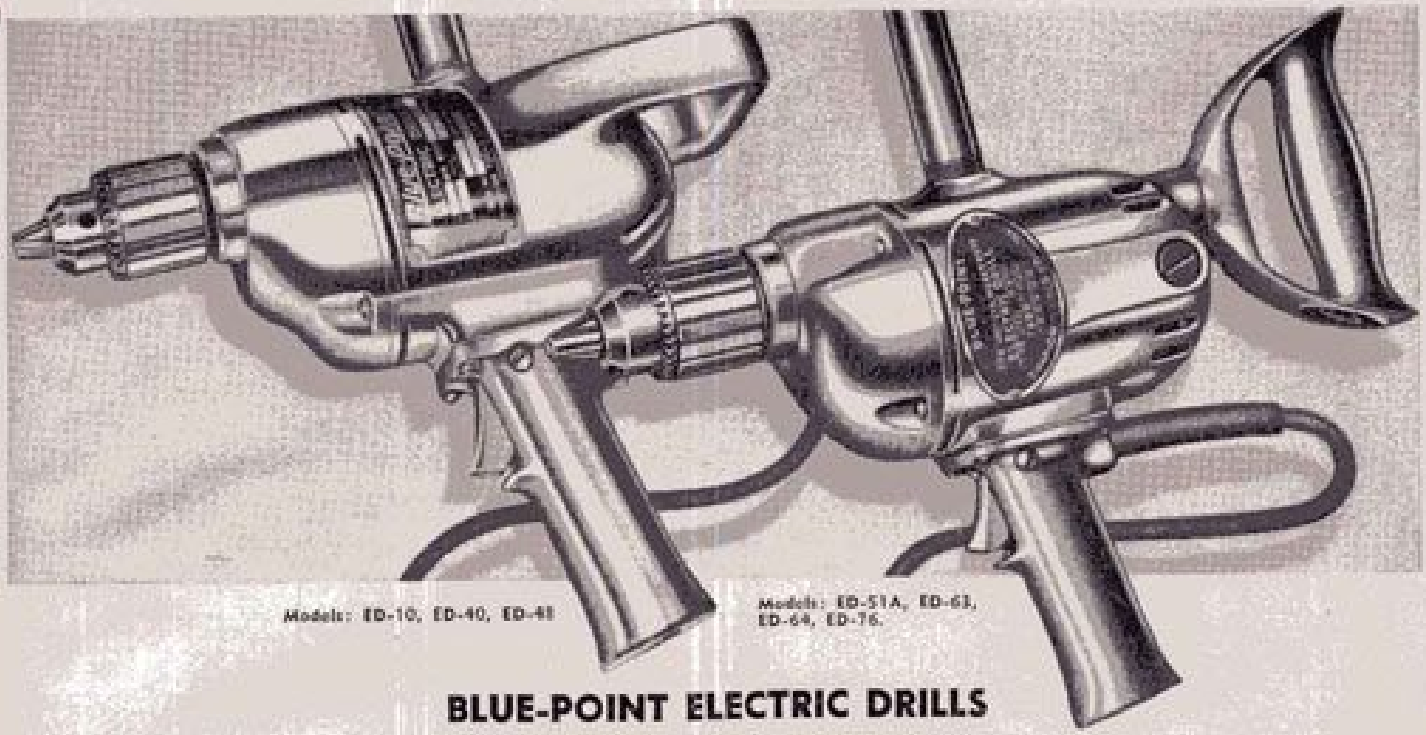
STOCK NO.	ED-22	ED-26A	ED-32	ED-38
Geared Chuck	7B 1/16"-24	7B 1/16"-24	30B 1/16"-24	2B 1/16"-24
Amperes used	2.2	4.5	5.5	5.5
Capacity: In Steel	1/4"	1/4"	5/16"	3/8"
Capacity: In Hardwood	1/2"	3/4"	3/4"	1 1/16"
Speed: No Load (RPM)	1700	2300	1400	800
Speed: Full Load (RPM)	1150	1600	1100	400
Net Weight (lbs.)	3 3/4	5	7 1/4	7 1/4
Overall Length	8 1/2"	11"	12 1/2"	12 1/2"

220 volt models available on special order.

REPLACEMENT CHUCKS AND CHUCK KEYS

Chucks are furnished complete with the keys and rubber key holders listed below.

CHUCK No.	Chuck Capacity	Thread Size	CHUCK KEY No.	KEY HOLDER No.
SC-1A	0-1/4"	1/16"-24	SCK-1	SCH-1
SC-4A	0-1/4"	1/16"-24	SCK-4	SCH-1
SC-4B	0-1/4"	1/16"-20	SCK-4	SCH-1
SC-2A	0-3/8"	1/16"-24	SCK-5	SCH-2
SC-2B	0-3/8"	1/16"-20	SCK-5	SCH-2
SC-2D	0-3/8"	1/16"-16	SCK-5	SCH-2
SC-5B	3/16"-3/8"	1/16"-20	SCK-5	SCH-2
SC-5D	3/16"-3/8"	1/16"-16	SCK-5	SCH-2
SC-6D	0-1/2"	1/16"-16	SCK-6	SCH-2



Models: ED-10, ED-40, ED-48

Models: ED-51A, ED-63, ED-64, ED-76.

BLUE-POINT ELECTRIC DRILLS

HEAVY DUTY 3/8" CAPACITY DRILL

Model ED-40. A sturdy drill for parts assembly lines, maintenance departments, construction crews, etc., where the work demands a heavy duty drill with a small chuck capacity. An all ball bearing drill . . . bearings sealed in housing to prevent entrance of grit and dirt . . . permanently lubricated . . . bearing seats precision bored. Molded rubber cable strain reliever prevents cable from kinking and breaking. Rear handle is solid with the housing. . . . Top pipe type handle is detachable.

Equipment includes a No. 32B geared 3-Jaw chuck, KH-32 chuck key and 7½ feet of 3-conductor cable and plug. See table below.

GENERAL PURPOSE 1/2" CAPACITY DRILL

Model ED-10. Our lightest ½" drill but having all the power necessary for general purpose use. Horizontal back handle is cast in line with the chuck for easier handling . . . top handle is removable. Powerful motor is mounted on ball bearings sealed from dust and grit. Chrome molybdenum gears are helical cut for smooth transmission of power and are mounted on sleeve bearings. Chuck spindle threads are ground to give accurate mounting and a true running chuck. Trigger may be locked in "on" position.

Equipment includes a 33-B ½" capacity 3-jaw geared chuck and key, and 7½ feet of 3-conductor rubber covered cable and plug. General specifications are shown below.

STANDARD 1/2" CAPACITY DRILL

Model ED-48. A light weight, compact drill that will prove most efficient for all general shop work. The horizontal back handle is cast integral with the motor housing and is in a direct line with the chuck and hit for better balance and consequently easier operation. The powerful 115 Volt AC-DC motor has armature, spindle and gear shafts supported by free, easy-running ball bearings which have permanently sealed-in lubrication giving years of smooth, trouble-free service. All gears are of chrome molybdenum steel carefully heat treated to correct hardness for maximum service under all working conditions. Ground thread on chuck spindle for true running chuck. The molded rubber strain reliever forms a grommet in the handle to prevent cable damage by kinking and abrasion.

Equipment includes a No. 33B ½" capacity 3-jaw geared chuck, KH-32 chuck key and 7½ feet of 3-conductor rubber covered cable and plug. See table below for complete specifications.

HEAVY DUTY 1/2" CAPACITY DRILL

Model ED-51A. A constant service ½" capacity drill much in demand in railroad shops, building and other heavy equipment industries. It is built to stand the "gaff" on the toughest drilling jobs, its excess power assuring longer motor life. Detachable spade type handle on the rear, removable pipe type handle on the top. Ball bearing throughout, all bearing seats precision bored. Complete with No. 34B 3-jaw geared chuck, KH-3 chuck key and 15 feet of 3-conductor cable and plug. Specifications are given below.

STANDARD 5/8" CAPACITY DRILL

Model ED-63. The chuck capacity, power and handle arrangements make this model one of the most popular all-purpose drills. Ideal for use with accessories such as hones, circular hole saws, cylinder grinders, wire brushes, etc. Detachable swivel spade type handle on rear and removable handle on top permits drilling in any direction with greater ease and accuracy. Equipped with No. 3B geared 3-jaw chuck, KH-3 chuck key and 15 feet of 3-conductor cable and plug. Complete specifications are shown below.

HEAVY DUTY 5/8" CAPACITY DRILL

Model ED-64. Built for heavy work where power and extra chuck capacity are required. Built to give many years of satisfactory service. Here is a drill you can rely on for hard continuous service in shops or on production lines. Equipped with No. 3B geared 3-Jaw chuck, KH-3 chuck key and 15 feet of 3-conductor cable and plug. Table below gives specifications.

HEAVY DUTY 3/4" CAPACITY DRILL

Model ED-76. A powerful, large capacity drill for all heavy work in the shop or out on the job. Designed and built to give rugged service with maximum life. The ideal tool for the truck body builder. Equipped with No. 36B ¾" capacity, 3-Jaw geared chuck, No. 4 chuck key and 15 feet of 3-conductor cable and plug. Specifications are listed below.

HEAVY DUTY 7/8" CAPACITY DRILL

(Not Illustrated)

Model ED-89. A rugged, powerful drill that will prove extremely useful in steel fabrication, construction, railroad and other heavy machinery fields. No matter what your drilling requirements may be, whether in metal, wood, marble or tile, the ED-89 has the necessary power and stamina to handle all of them. Equipped with a No. 2 Morse taper socket for taper shank drill bits and 15 feet of 3-conductor cable and plug. See table below for specifications.

Specifications For All Drills on This Page

Stock No.	ED-40	ED-10	ED-48	ED-51A	ED-63	ED-64	ED-76	ED-89
Geared Chuck	32B 1/2"-20	33B 1/2"-20	33B 1/2"-20	34B 1/2"-16	3B 5/8"-16	3B 5/8"-16	36B 3/4"-16	
Amperes Used	3.5	4.5	3.5	4.5	9	12	12	12
Capacity: In Steel	3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	3/4"	7/8"
Capacity: In Hardwood	3/4"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
Speed: No. Load (Rpm)	900	450	500	550	500	450	425	400
Speed: Full Load (Rpm)	500	300	350	350	300	290	260	235
Net Weight (lbs.)	9	8	9	10 1/2	13	22	24	25
Overall Length	11"	10 1/2"	11"	11 1/2"	12 3/8"	13 1/4"	15 3/4"	18 1/4"

220 volt models available on special order.

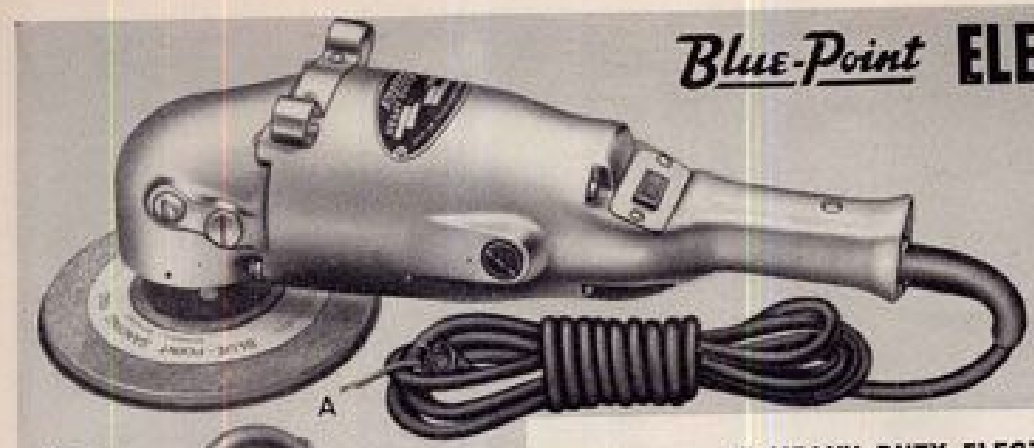
Electric Tool Guarantee

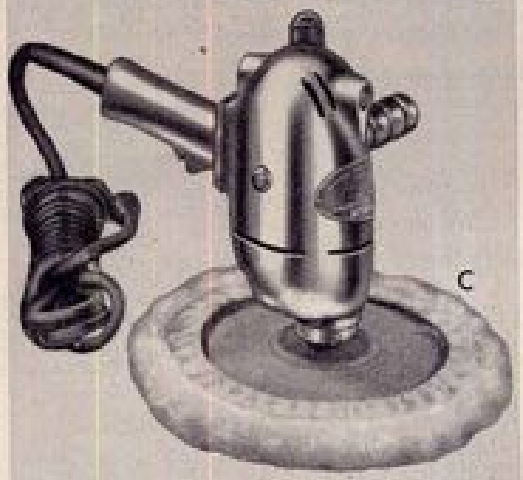
Every Snap-on or Blue-Point electrically driven tool is thoroughly tested under load and checked for possible electrical and mechanical defects before leaving our plants. We will gladly replace without cost, any parts of a tool which we find defective in material or workmanship, provided the tool is returned to the nearest Snap-on branch with all transportation charges prepaid, and provided that no other repair work has been performed by others.

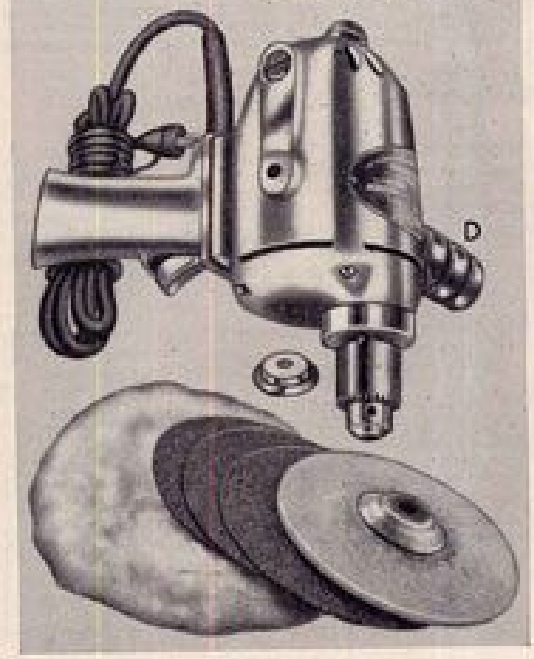
Snap-on Tools Corporation

Blue-Point ELECTRIC TOOLS

FOR THE BEST SANDING AND POLISHING PERFORMANCE







7" HEAVY DUTY ELECTRIC DISC SANDER

(A) **ES-70 Disc Sander.** This sander is designed for fast, smooth operation and long life. All moving parts are mounted on ball bearings permanently lubricated and sealed from dirt and dust. All gears are machined from chrome molybdenum steel heat treated to wear resistant hardness. A powerful fan sucks cool air through the end of the handle at a point farthest away from the operation and a series of baffles strain out any dust or grit. Air is expelled through front ports keeping the work free from grindings. A spindle lock incorporated in the head of the sander prevents the spindle from turning while the disc retaining nut is being removed or tightened. Streamlined aluminum housing, detachable side handle and safety type "off-on" switch.

Standard equipment includes 15 feet of three-conductor rubber covered cord with molded rubber strain reliever, one backing pad, three abrasive discs and special wrench. Pad diameter is 7", spindle size ⅝" — 11 thread, no load speed 4700 RPM, overall length 17". 110 volt AC/DC. 10 amp motor. Weight 14¼ lbs.

7" HEAVY DUTY VERTICAL DISC SANDER

(B) **ES-207 Disc Sander.** For those who prefer vertical construction, here is a disc sander that has been designed in every detail for maximum operating efficiency regardless of the surface on which it is used. Vertical spindle construction permits the power to be transmitted in a straight line from the motor to the spindle . . . eliminates bevel gears thus contributing to quieter operation and making a more compact tool. Reduction gears are made of alloy steel, helical cut for greater tooth contact, carefully hardened and amply lubricated to provide long trouble-free operation.

Cast aluminum housing provides strong, lightweight protection for the powerful motor. Large pistol grip handle is fitted with a trigger-type switch and lock for continuous operation. A spindle lock is also incorporated to facilitate pad installation. The side handle threads into either side of the housing for right or left hand operation. The powerful air cooled motor is AC/DC type operating on 110 volt, 25-60 cycles, 8 amps.

Equipment includes one 7" sanding pad, 3 sanding discs and 15 feet of 3-conductor cable and plug with molded rubber strain reliever. Spindle size is ⅝" — 11 thread, no load speed 5200, load speed 4500 and weight 12 lbs.

9" VERTICAL POLISHER

(C) **EP-109 Polisher.** Here is the ideal tool for obtaining a hard, brilliant finish on all types of surfaces. Particularly suited for automotive use it makes fast work of buffing liquid power polishes and other types of auto finish protectors. Has the same construction features as the ES-207 Disc Sander above. Equipment includes a 9" backing pad, 10" lamb's wool bonnet and 15' of 3-conductor cable and plug with molded rubber strain reliever. Spindle diameter ⅝" — 11 thread, no load speed 950, load speed 750, weight 10 lbs. Universal AC/DC, 110 volt, 25-60 cycles, 5.5 amp motor.

COMBINATION DRILL—SANDER—POLISHER

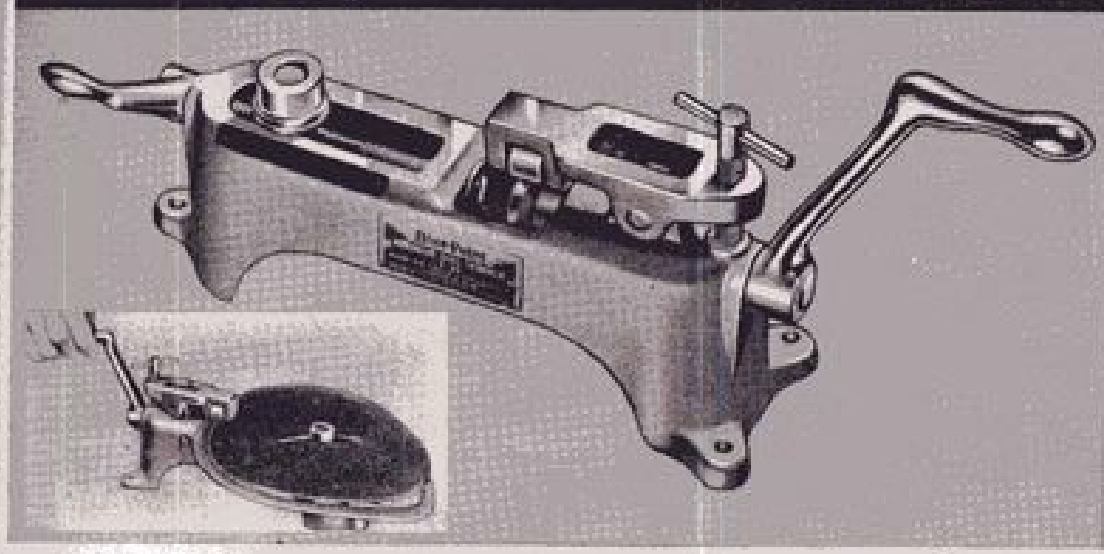
(D) **ED-341 Triple Tool.** It's light . . . rugged . . . powerful . . . and you get *three* tools for the price of *one* when you buy this combination drill, sander, and polisher. It's a fine tool for intermittent sanding, polishing, and drilling of wood, metal, or plastics.

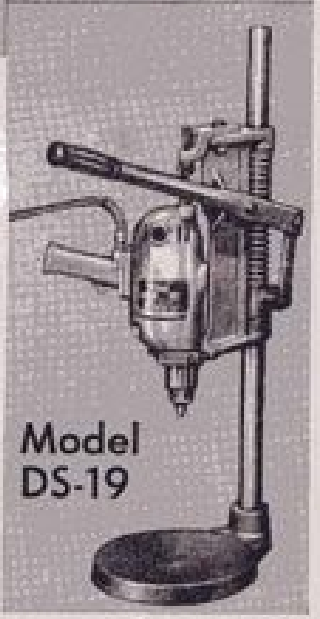
Changing from one unit to the other is just a matter of seconds. A push button locks the spindle, making it easy to remove and replace sanding discs, backing pad, or drill chuck. The powerful motor gives the tool a drilling capacity of ¼" in metal and ½" in hard wood. Pad diameter is 5".

The powerful 110 volt AC/DC, 115 volt, 25-60 cycle, 4.5 amp motor is 100% ball bearing with reduction gears helically cut for smooth, quiet operation, and carefully hardened for long life. Free running speed is 2300 r.p.m., polishing speed 1200 r.p.m. The cast aluminum case provides light weight with plenty of strength, and the large pistol-grip handle is attached at just the right angle for easy operation. Trigger type switch has a positive lock for continuous operation. A molded rubber strain reliever prevents the 10 feet of 3-conductor cable from kinking and breaking where it enters the handle. Equipment includes a 7-B ¼" capacity geared chuck, a KH-7 key and patented holder, a 5" backing pad, a 5" lamb's wool bonnet, and three 5" sanding discs. Spindle size is ⅜" — 24 thread.

NOTE: 220 volt models of the above machines are available on special order.

ACCESSORIES FOR DRILLS—SANDERS—POLISHERS





Snap-on

SANDING DISC TRIMMER

A-88 Sanding Disc Trimmer. Cut disc costs with this abrasive disc trimmer. This money-saving machine makes one disc do the work of many . . . saves its cost several times in a few months by letting you trim worn discs down to fit smaller size pads and using up every inch of effective sanding surface. Any desired amount from ⅛" up to 1" can be trimmed off at one time and you get a perfectly shaped circle with sharp, firm edges.

The Snap-on Abrasive Disc Cutter handles both ½" and ¾" hole discs up to 9" in diameter and is constructed for superior service. Can also be used to trim sanding belts. Cutter wheel is keyed onto the shaft and cannot slip. Gripper roll is adjustable to give proper roller tension for any disc thickness. Three-leg construction of the housing gives wobble-free mounting on uneven bench surfaces.

★A-88-6 Replacement Cutter Wheel.

Blue-Point

ELECTRIC DRILL STANDS

Convert your electric drill into a drill press for heavy duty and very accurate work. Each of the two bench stands listed below accommodates several drill models which are mounted quickly without use of adaptors. Precision-machined groove and slide give complete accuracy throughout drilling stroke. Drill holder adjusts for height and swings to position required. Base drilled for mounting.

DS-14 Drill Stand. For Models ED-26A, ED-32, and ED-38 (Page 66). Center of drill bit to column center is 3⅝".

DS-19 Drill Stand. For Models ED-10, ED-40, ED-48, ED-51A, ED-63, ED-64 and ED-76 (page 67). Center of drill bit to column center 7".

BACKING PADS

These molded rubber pads with aluminum cores give you all-purpose backing pads that are more flexible than fibre pads. They work better on curved surfaces, require less pressure and give better "feather-edging" and smoother resurfacing. Not affected by grease, oil or water. Ribbed construction acts as a fan to blow grindings away from work area.

No.	Size		Thread
★DSP-7B	6½"	Pad.	⅝"-11"
★DSP-9B	8½"	Pad.	⅝"-11"
★DSP-53A	5½"	Pad.	⅝"-24

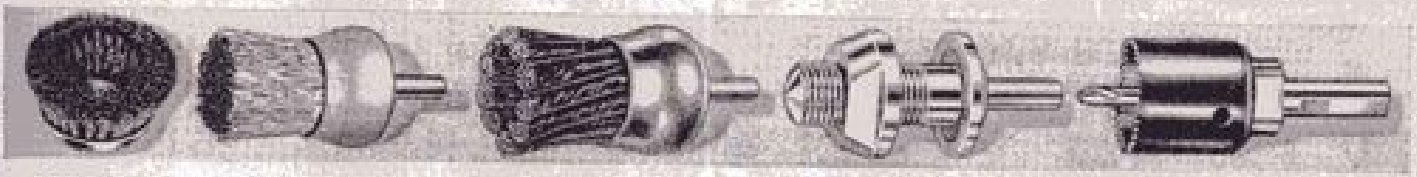
WOOL BUFFING BONNETS

Lambs wool, 1" pile, top grade skins. 3½" wide cloth side walls have drawstrings for attaching the bonnet to the pad.

★WB-71 **7" Bonnet** for 5½" pad.

★WB-81 **8" Bonnet** for 6½" pad.

★WB-101 **10" Bonnet** for 8½" pad.



WIRE CUP BRUSHES

Spiral twist cup brushes, designed for use with portable electric disc sanders. Can be safely operated at high speed. Fitted with a ⅝"-11 thread bushing welded integrally for mounting direct to spindle . . . fits sanders shown on page 68. The fine quality steel wire used is inserted in twisted tufts for greatest strength and durability.

★A-2464 **Cup Brush** ..... 3½" diameter

★A-2465 **Cup Brush** ..... 6" diameter

CARBON BRUSHES

★AC-2 Standard Carbon Brush. Fits ¼" electric Drill. Made of crimped, bright music wire.

★AC-7 Spiral Twist Carbon Brush. Tightly twisted spirals of high quality .020" steel wire. Brush diameter 1⅛", stem diam. is ¼".

ARBOR ADAPTOR

A-24 Arbor Adaptor. Adapts electric drills to light grinding and wire brushing. ½" diameter arbor — use with brushes and wheels up to 4" diameter.

CIRCULAR HOLE SAWS

The high speed steel blades are interchangeable on two sizes of mandrels—each of which is fitted with a ¼" pilot drill. Shank fits ½" drill chuck. The saw blade is spot welded around the outside of the flange and can be used the full depth of the tool.

HS-31 Mandrel..... Fits hole saws ⅝" to 1⅜" diameter.

HS-33 Mandrel..... Fits hole saws 1½" to 2" diameter.

Number	Dia.		Number	Dia.		Number	Dia.	
★HS-20-A	⅝"		★HS-36-A	1⅛"		*★HS-52-A	1⅝"	
★HS-24-A	¾"		★HS-40-A	1¼"		*★HS-56-A	1¾"	
★HS-28-A	⅞"		★HS-44-A	1⅜"		*★HS-60-A	1⅞"	
★HS-32-A	1"		★HS-48-A	1½"		*★HS-64-A	2"	

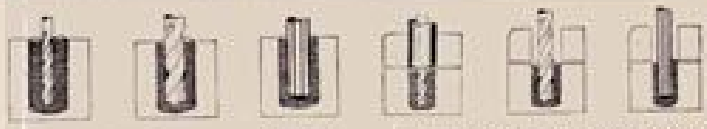
*Not carried in stock. Shipped on special order.

A NEW FAST WAY TO REMOVE BROKEN THREADED ENDS OF SCREWS, STUDS, PIPE AND PIPE FITTINGS

No. 1020 Extractor Set. Contains one each of all the Drill Guides, Extractors and Special Drills listed at right. Extractions can be made up to 1" below surface. Set includes case 1020-B shown above.

These tools are straight from end to end . . . when driven into a drilled hole in the broken unit, they grip without reaming or slipping, and furthermore, will not expand or distort sidewalls of holes no matter how thin or how far the tool is driven in. Tightly embedded broken threaded ends can now be drilled out to thin walled shells, safely seized with one of these tools and easily turned out. This is the only basically correct method of doing the job . . . tapered extractors often expand the broken unit making it bind tighter than it did before.

Three Steps In Extracting



1. A small hole is first drilled in the broken screw (Fig. 1); if the screw is broken below the surface the correct size guide is used to center the drill (Fig. 4).
2. The hole is enlarged to proper size to accept the extractor tool (Fig. 2 and Fig. 5) . . . correct drill sizes are shown under "Extractors."
3. The drill is removed and the extractor is driven into the drill hole (Figures 3 and 6) and the broken end quickly turned out.

DRILL GUIDES

No.		O.D.	I.D.	Lgth.	Use Drill
921		3/32"	1/16"	1 5/16"	1/8"
1021		3/32"	1/8"	1 5/16"	1/8"
1121		13/64"	1/8"	1 5/16"	1/8"
1221		3/16"	1/8"	1 5/16"	1/8"
1321		13/64"	5/64"	1 5/16"	5/64"
1421		3/16"	5/64"	1 5/16"	5/64"
1521		13/64"	5/64"	1 5/16"	5/64"
1621		1/4"	5/64"	1 5/16"	5/64"
1721		15/32"	1/4"	1 5/16"	1/4"
1821		7/16"	1/4"	1 5/16"	1/4"

SCREW EXTRACTORS

No.		Screw Dia.	Use Drill	Flute Dia.	Lgth.
1		1/4"	1/8"	.139	2 5/16"
2		5/16"	5/64"	.205	2 5/8"
3		3/8"	1/4"	.272	3 1/4"
4		7/16"	5/16"	.338	3 3/4"
5		1/2-9/16"	11/32"	.374	3 3/4"

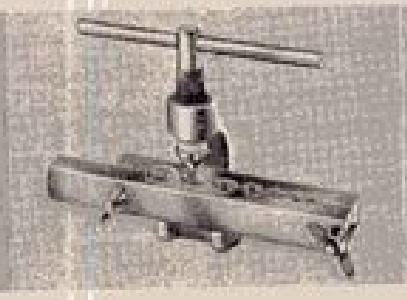
Each extractor is equipped with a specially designed hexagon nut for convenient turning with standard wrenches.

FRACTIONAL DRILLS

Size	Length	
★ 1/8"	2 3/4"	
★ 5/32"	3 1/2"	
★ 1/4"	4"	
★ 5/16"	4 1/2"	
★ 11/32"	4 3/4"	

To prevent errors please order individual units by description as well as by tool stock number.

DOUBLE FLARING TUBING TOOL



Use adaptor to bell the tubing and then remove adaptor.

Next apply cone action to tubing and obtain 45° double flare.

Makes 45° Double Flares Faster and More Accurate

★93FB Double Flaring Tool Set. Economical, speedy, easy-to-operate! Makes accurate 45° double-flares on thin wall, seamless, butt or lap welded, soft steel tubing, (such as Bundy) up to .035" thick, for S. A. E. flare and inverted flare joints. Handles 5/16", 1/4", 5/16", 3/8" and 1/2" O. D. thin wall steel tubing. Will also make single or double flares on copper or aluminum tubing. Insures tube against cracking or splitting by folding back the end to make a flare with double thick, double strength walls. The forged steel yoke is equipped with swivel cone which reduces friction when flaring. In close quarters, rod handle can be removed and a wrench used on the 1/4" square head of the cone screw. Complete tool includes flaring bar, yoke, and 5 adaptors.

Single Flaring Tool With Slip-on Yoke

TF-7A Flaring Tool. Seven different tubing sizes from 3/16" to 5/8" can be flared with this tool . . . a wider range than previous models. It offers exceptional ease and speed of operation due to the construction of the yoke which slips over the bar without twisting or turning. As the bottom is open, tubing flares can be made where there is little clearance between the nut and the end of the tubing. Handles soft copper, brass or aluminum tubing in 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 5/8" sizes . . . No need now to buy two tools to cover this range.

Tube Cutting is Easy With This Improved Tool

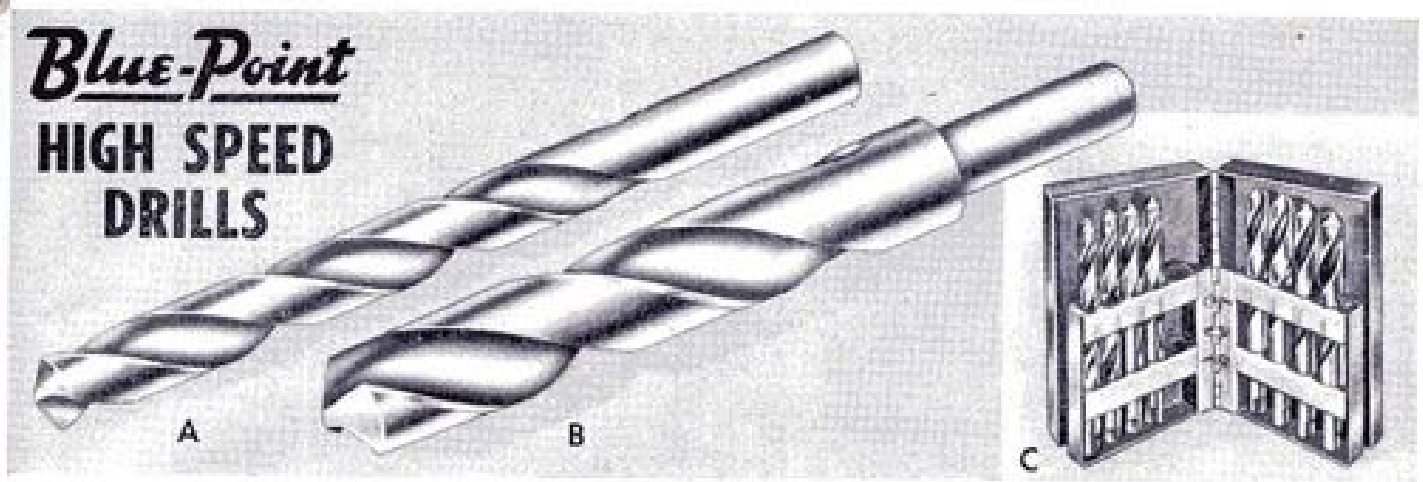
TC-28 Tubing Cutter. This compact, efficient tool is only 5" long yet it will cut brass, copper or similar tubing from 1/8" to 1" in diameter. The cutting wheel is mounted on a pivoted arm and is fed into the pipe when the knobbed screw is turned.

A spring automatically retracts the arm and cutter when the tension is released. Two rollers hold the pipe firmly in position during the cutting operation.

Burrs that may form in the inside of the pipe are easily removed with the reamer blade. This blade may be retracted to fit alongside of the body making the tool safe and comfortable to carry in the pocket. Cutter wheel is held in position with a screw.

★TC-28-1 Extra Cutter Wheel.

Blue-Point HIGH SPEED DRILLS



Ⓐ These fine quality drills are not single purpose drills for special work, but are made to do the best all around job in all classes of work. Made of finest quality high speed steel. They are expertly hardened and tempered by special processes to retain their sharpness for a long period of time. Precision ground to cut easily and accurately. For use in Electric Drills and power driven drill presses. To facilitate their safekeeping we offer sets in metal holders marked so you can quickly select the size drill you need.

Fractional Drills

Diam.	Decl. Equiv.	L'gth.	Diam.	Decl. Equiv.	L'gth.
★ 1/16	.0625	1 5/16	★ 11/64	.2969	4 1/2
★ 3/32	.0781	2	★ 3/16	.3125	4 5/8
★ 7/64	.0937	2 1/4	★ 13/64	.3281	4 3/4
★ 1/8	.1094	2 1/2	★ 7/32	.3437	4 7/8
★ 9/64	.1250	2 3/4	★ 15/64	.3594	4 7/8
★ 5/32	.1406	2 7/8	★ 1/4	.3750	5
★ 11/64	.1562	3 1/8	★ 17/64	.3906	5 1/8
★ 3/16	.1719	3 1/4	★ 9/32	.4062	5 1/4
★ 13/64	.1875	3 1/2	★ 19/64	.4219	5 1/2
★ 7/32	.2031	3 5/8	★ 5/16	.4375	5 1/2
★ 15/64	.2187	3 3/4	★ 21/64	.4531	5 3/4
★ 1/4	.2344	3 7/8	★ 11/32	.4687	5 3/4
★ 17/64	.2500	4	★ 23/64	.4844	5 7/8
★ 9/32	.2656	4 1/8	★ 1/2	.5000	6
★ 19/64	.2812	4 1/4			

Wire Gauge Drills

No.	Decl. Equiv.	L'gth	No.	Decl. Equiv.	L'gth	No.	Decl. Equiv.	L'gth
★ 1	.2280	3 1/2	★28	.1405	2 5/8	★55	.0520	1 1/8
★ 2	.2210	3 1/2	★29	.1360	2 5/8	★56	.0465	1 1/4
★ 3	.2130	3 1/4	★30	.1285	2 5/8	★57	.0430	1 1/4
★ 4	.2090	3 1/4	★31	.1200	2 5/8	★58	.0420	1 1/4
★ 5	.2055	3 1/4	★32	.1160	2 5/8	★59	.0410	1 1/4
★ 6	.2040	3 1/4	★33	.1130	2 5/8	★60	.0400	1 1/4
★ 7	.2010	3 1/2	★34	.1110	2 5/8	★61	.0390	1 1/4
★ 8	.1990	3 1/2	★35	.1100	2 5/8	★62	.0380	1 1/4
★ 9	.1960	3 1/2	★36	.1065	2 1/2	★63	.0370	1 1/4
★10	.1935	3 1/2	★37	.1040	2 1/2	★64	.0360	1 1/4
★11	.1910	3 1/2	★38	.1015	2 1/2	★65	.0350	1 1/4
★12	.1890	3 1/2	★39	.0995	2 1/2	★66	.0330	1 1/4
★13	.1850	3 1/2	★40	.0980	2 1/2	★67	.0320	1 1/4
★14	.1820	3 1/2	★41	.0960	2 1/2	★68	.0310	1 1/4
★15	.1800	3 1/2	★42	.0935	2 1/2	★69	.0292	1 1/4
★16	.1770	3 1/2	★43	.0890	2 1/2	★70	.0280	1 1/4
★17	.1730	3 1/2	★44	.0860	2 1/2	★71	.0260	1 1/4
★18	.1695	3 1/2	★45	.0820	2 1/2	★72	.0250	1 1/4
★19	.1660	3 1/2	★46	.0810	2 1/2	★73	.0240	1 1/4
★20	.1610	3 1/2	★47	.0785	2	★74	.0225	1
★21	.1590	3 1/2	★48	.0760	2	★75	.0210	1
★22	.1570	3 1/2	★49	.0730	2	★76	.0200	7/8
★23	.1540	3 1/2	★50	.0700	2	★77	.0180	7/8
★24	.1520	3 1/2	★51	.0670	2	★78	.0160	7/8
★25	.1495	3	★52	.0635	1 7/8	★79	.0145	7/8
★26	.1470	3	★53	.0595	1 7/8	★80	.0135	7/8
★27	.1440	3	★54	.0550	1 7/8			

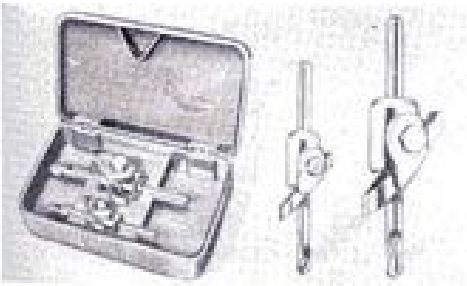
COMBINATION SHANK DRILLS

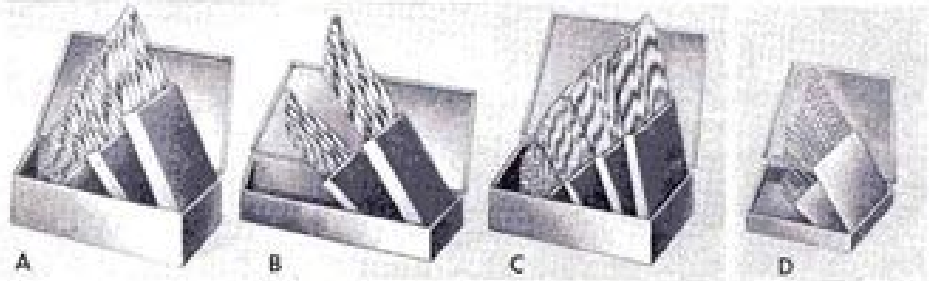
Ⓑ Highest quality high speed steel, specially hardened and tempered. Cutting edges ground for precision drilling . . . Drill holes up to 1" diameter with power tools equipped with ½" capacity chuck . . . Extra flute length — 4½" — due to shorter driving shank means longer drill life . . . Overall length 6" . . . Individually packed in clear plastic tubes to protect cutting edges.

Ⓒ **★CS-50-B Combination Shank Drill Set.** Contains CS-34, CS-36, CS-38, CS-40, CS-42, CS-44, CS-46, and CS-48 in H-108 indexed drill holder.
H-108 Drill Holder only.

★CS-40-B Combination Shank Drill Set. Contains CS-36, CS-40, CS-44, and CS-48 in H-108 holder.

Stock No.	Diam.	Decl. Equiv.	Stock No.	Diam.	Decl. Equiv.
★CS-33	13/64"	.2031	★CS-45	45/64"	.7031
★CS-34	17/64"	.2656	★CS-46	23/32"	.7187
★CS-35	9/32"	.2812	★CS-47	47/64"	.7344
★CS-36	5/16"	.3125	★CS-48	3/4"	.7500
★CS-37	21/64"	.3281	★CS-50	13/16"	.8125
★CS-38	11/32"	.3437	★CS-52	7/8"	.8125
★CS-39	23/64"	.3594	★CS-54	15/16"	.8437
★CS-40	3/8"	.3750	★CS-56	29/32"	.8750
★CS-41	13/16"	.4062	★CS-58	31/32"	.9062
★CS-42	27/64"	.4219	★CS-60	1"	.9375
★CS-43	7/16"	.4375	★CS-62	1 1/32"	.9687
★CS-44	15/32"	.4687	★CS-64	1 1/16"	1.0000





ADJUSTABLE HOLE CUTTERS

★HC-790 Bruno Hole Cutter Set. This set of two tools will cut holes from ¾" to 2½" in diameter and ⅛" to ⅝" deep in sheet metal, brass, copper, aluminum and deeper holes in plastics, wood and masonite. Simple to adjust to any diameter. Adaptable for use in low speed drill presses, low speed electric drills, hand drills or hand braces. Tool steel blades, heat treated shanks. Plastic case included in the set.

Stock No.	Size Shank	Capacity	Thickness Capacity	Pilot Drill	Ea.
★HC-100	3/8"	3/4" to 1 1/4"	up to 1/8"	1/4"	
★HC-101	3/8"	1" to 2 1/2"	up to 5/8"	5/16"	

Extra Blades

★HC-100-1.....**Blade** for HC-100 Cutter
★HC-101-1.....**Blade** for HC-101 Cutter

HIGH SPEED DRILL SETS

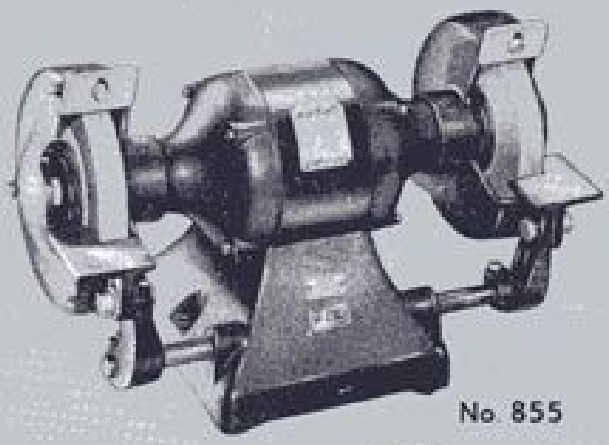
Ⓐ **★C-129 Fractional Drill Set.** 29 Drills 1/16" to ½" inclusive in H-129 Holder. Sturdy steel holder has hinged cover. When open the three drill compartments drop forward. Every individual drill compartment has size of drill stamped into metal, so the selection of right size drill is made easily.

★C-115 Fractional Drill Set. 15 drills 1/16" to ½" by 32nds, in H-129 Holder. A good basic set—can be filled in later.
H-129 Drill Holder only.

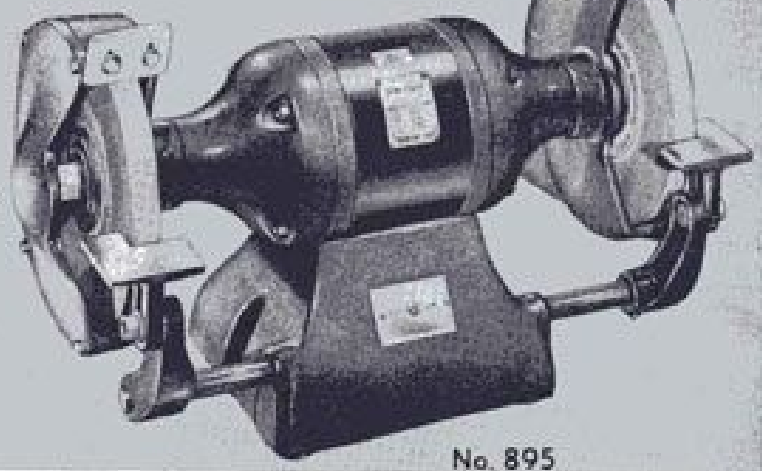
Ⓓ **★CH-120 Wire Gauge Drill Set.** Consists of 20 tiny wire gauge drills sizes No. 61 to 80 inclusive. Complete in the H-120 Drill Holder. Holder is only 2" high—gives proper protection for these small drills.
H-120 Drill Holder only.

Ⓑ **★C-113 Fractional Drill Set.** This set contains 13 drills sizes 1/16" to ¼" inclusive in H-113 Holder. The drill holder is of steel and is hinged as shown. When open the two drill compartments drop forward where right sized drills can easily be selected. Each compartment has drill sizes marked on it.
H-113 Drill Holder only.

Ⓒ **★CH-160 Wire Gauge Drill Set.** This set contains 60 Straight Shank Wire Gauge Drills Nos. 1 to 60 neatly arranged in H-160 Metal Holder. This is the most convenient and safest way to keep drills. Each individual drill compartment is marked with drill size making it easy to select the size you need. Holder has 4 separate hinged containers.
H-160 Drill Holder only.

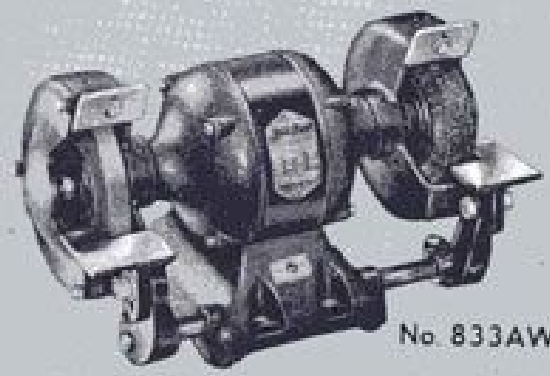


No. 855



No. 895

No. 833A



No. 833AW

No. 825

No. 826

Blue-Point BENCH GRINDERS

For Smoother, More Powerful Operation

- **MOTOR OPERATION:** All motors are designed to operate at plus or minus 10% of stated voltage and on either 60 or 50 cycles. For example, 115 volt single phase motors operate on voltages ranging between 104-126 volts.
- **COMPLETELY ENCLOSED MOTOR:** Super powered, precision balanced motors are enclosed to prevent dirt, grit, etc., from entering motor or bearings.
- **BALL BEARING CONSTRUCTION:** Oversize labyrinth grease sealed ball bearings used throughout, assure smooth, long lived motor operation.
- **CAPACITOR START MOTOR:** (On ½ and 1 H.P. models only.) For fast, powerful starting yet with a very low starting current . . . actually less than 15 amps. is consumed.
- **LARGE WHEEL GUARDS:** Extra wide, enclosed types on 1 H.P., ¾ H.P. and ½ H.P. models provide the fullest possible protection and allow use of special shape wheels or wire brushes. They have a rear outlet which can be connected to industrial exhaust systems. The outer sections of the guards are quickly removed to permit changing the wheels. These guards are drilled for easy installation of eye shields shown on page 73 and are furnished with adjustable chip breakers as illustrated. No. 826-F and No. 825-F ¼ H.P. models have open type guards.
- **BELL TYPE CONSTRUCTION:** On all models except No. 826-F allows grinding of long pieces. Front of No. 826-F is squared to provide grinding clearance.
- **STURDY TOOL RESTS:** Those on 1 H.P., ½ H.P., and ½ H.P. models are fully adjustable for any type of work with ample take-up for wheel wear. Those on No. 826-F and No. 825-F ¼ H.P. models adjust to wheel wear. All are easily removed.
- **LARGE RUGGED BASE:** Equipped with rubber feet to provide solid mounting free from vibration. Has recessed bolt openings for permanent mounting. No. 826 model has bolt slots under the base.
- **GROUND WIRES:** All single phase models have 3-wire cord and plug. The third wire is a ground wire and should be screwed to the outlet box to prevent danger of shocks.

STANDARD MODELS AVAILABLE

895-G Grinder, 1 H.P. Motor. 13 amp., single phase, capacitor start. Complete with two 10" diam. x 1" face wheels—one fine, one coarse and enclosed guards. Has 3 wire cord and plug.

895-M Grinder, 1 H.P. Motor. Three phase 208-220/440 volt, 3.3 amps. Complete with two 10" diam. 1" face wheels—one fine, one coarse and enclosed guards. This model has leads for permanent connection . . . diagram supplied shows method of connecting to either low or high voltage line.

855-G Grinder, ½ H.P. Motor. Single phase, capacitor start. Complete with two 7" diam. x 1" face wheels—one fine, one coarse and enclosed guards. Has 3-wire cord and plug.

833A-F Grinder, ½ H.P. Motor. Single phase, split phase start. Complete with two 6" diam. x ½" face wheels—one fine, one coarse and enclosed guards. Has 3-wire cord and plug.

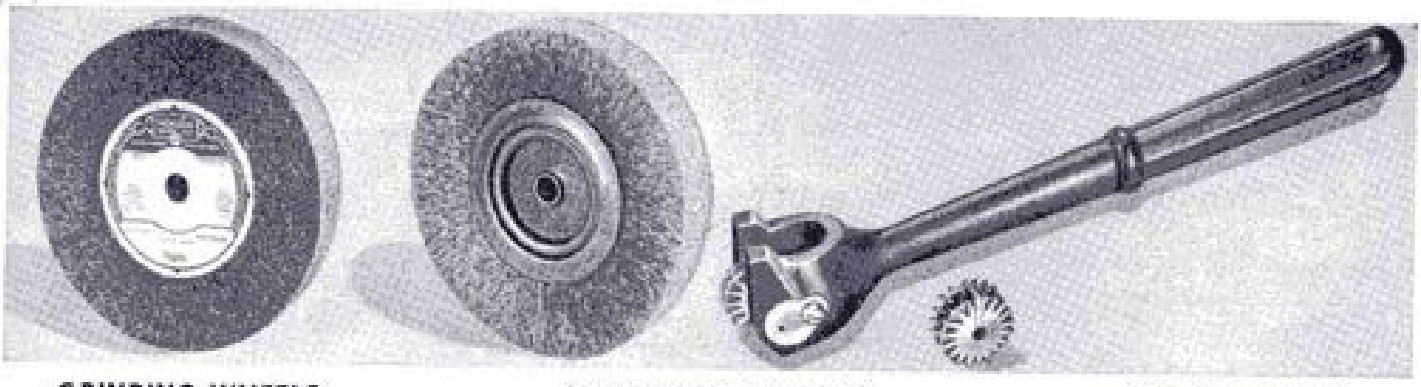
833AW-F Grinder, ½ H.P. Motor. Same as No. 833A-F except it has one medium grit wheel and wire brush.

826-F Grinder, ¼ H.P. Motor. Single phase, split phase start. Complete with two 6" diam. x ½" face wheels—one fine, one coarse and open wheel guards. Has 3-wire cord and plug.

825-F Grinder, ¼ H.P. Motor. Single phase, split phase start. Complete with two 6" diam. x ½" face wheels—one fine, one coarse and open wheel guards. Has 3-wire cord and plug.

CAUTION: Some states have workmen's compensation laws which require the use of enclosed wheel guards.

STANDARD MODELS	No. 895-G	No. 855-G	Nos. 833A-F 833AW-F	No. 826-F	No. 825-F
Motor Rating	1 H.P.	½ H.P.	½ H.P.	¼ H.P.	¼ H.P.
Amperes	13	3.6	4.6	3.4	3.4
Voltage	115	115	115	115	115
Cycle	50/60	50/60	50/60	50/60	50/60
No Load R.P.M. at 60 Cycles	1750	3450	3450	3450	3450
No Load R.P.M. at 50 Cycles	1450	2850	2850	2850	2850
Spindle Length	26½"	19¾"	17"	13½"	13½"
Height to Spindle Center	9½"	8"	6¼"	5"	5½"
Total Height	15"	12½"	10½"	8½"	8½"
Wheel Diameter	10"	7"	6"	6"	6"
Wheel Face	1"	1"	½"	½"	½"
Wheel Hole	¾"	¾"	½"	½"	½"
Net Weight	155 Lbs.	80 Lbs.	55 Lbs.	38 Lbs.	38 Lbs.



GRINDING WHEELS

Made from natural aluminous oxide abrasive . . . fully vitrified. Use 60 grit wheels for fine general grinding and 36 grit for rough work.

Stock No.	Diam.	Width	Grit	Arbor Hole
★61836	6"	1½"	36	1¼"
★61860	6"	1½"	60	1¼"
★62436	6"	2½"	36	1¼"
★62460	6"	2½"	60	1¼"
★63236	6"	1"	36	1¼"
★63260	6"	1"	60	1¼"
★73236-S	7"	1"	36	1¼"
★73260-S	7"	1"	60	1¼"
★103236	10"	1"	36	1¼"
★103260	10"	1"	60	1¼"
★103260	10"	1"	60	1½"

WIRE WHEEL BRUSHES

Made of high quality, selected wire and metal, bound to prevent dangerous chips from flying loose—crimped wire bristles prevent bending or breaking and have extremely long wearing characteristics.

Standard Duty
Good quality, light weight brushes for intermittent, all-round use, but not quite as strong and durable as those on the right.

Heavy Duty
Built for heavy duty continuous service on all types of wire brushing jobs. Finest quality materials and workmanship.

Specify Arbor Size Required

No.	Diam.	Width	Arbor Hole
★ A-33	6"	¾"	1½" to 2"
★*A-34	6"	⅞"	1½" to 2"
★ A-35	10"	1"	¾" to 2"
★*A-36	12"	1⅛"	1½" to 2"

No.	Diam.	Width	Arbor Hole
★ A-26	6"	1½"	½" to 2"
★ A-27	7"	1½"	½" to 2"
★*A-28	8"	1⅝"	½" to 2"

*Available on factory order only

WHEEL DRESSER

★**WD-11 Wheel Dresser.** With this tool, it takes only a few seconds to true up the face and remove the glaze from grinding wheels and you'll do a better, faster job with the cleaned wheel. Dresser is made extra strong to withstand the pressure exerted on the wheel and new cutters are easily inserted when old ones wear out. The hood over the cutters helps to protect the operator from flying grit. A new set of cutters can be easily inserted into the handle.

★**WD-11-A.** Set of extra cutters.

EYE SHIELDS

Ⓐ ★**S-60 Floodlight Eye Shield.** Two 25 watt, 115 volt light bulbs in each shield flood work with direct light and provide visibility for safe work. Sturdy aluminum die cast frame has window opening 4" x 6" with top sheet of safety glass and bottom sheet of standard glass, easily replaced, if it becomes pitted. Easily attached to any grinder, adjustable up or down, but cannot be moved accidentally to a non-guard position. Mounting bolts included.

★**S-60-1.** Extra 25 Watt Light Bulb.

Ⓑ ★**S-69 Standard Eye Shields.** Thick safety glass gives clear vision, with adequate protection from flying particles. Frame swivels to best working position for the job . . . easily attached to grinder.

DRILL GRINDING ATTACHMENTS

Ⓒ **DG-11 Drill Grinding Attachment.** Accurately sharpens drills from 3/32" to ½" in diameter in a few seconds time. Adjustments for drill size and length are the only changes that have to be made for various size drills, making this tool simple to use. The drill holder is a separate unit that slides into a bracket for the actual sharpening operation, leaving the grinder free for other purposes if necessary. This bracket is bolted or screwed to the bench and will work with any type of bench grinder.

Ⓓ **DG-30 Drill Grinding Attachment.** Sharpens drills from 3/32" to ½" in diameter with both lips ground identical in length, clearance and angle. Micrometer screw controls feed. Radial movement of the chuck via the swing handle controls lip clearance. The chuck trunnion is indexed for drill angles from 40° to 80°. Points 59° and 41° are noted on scale for fast adjustment of these popular cutting angles. Easily attached to any grinder and for any wheel thickness. A set-up gauge is included to assure alignment of grinder spindle and mounting bracket shaft prior to operation.

FLEXIBLE CARBON SCRAPER

Ⓐ ★**CS-1 Flexible Wire Carbon Scraper.** Designed to do a quick, easy job and to give long and useful service. Ten blades made of highest quality oil tempered spring steel with flexibility controlled by a sliding ferrule. Makes cleaning of cylinder heads, blocks, valve parts, etc., a very easy job.

WIRE BRUSH AND SCRAPER

Ⓑ ★**A-65 Hand Brush and Scraper.** A refillable type of wire brush with metal handle and scraper attachment. Heavy crimped wire resists bending and breaking. Will outlast a number of the wood handle type.

★**A-61** ..... **Crimped Wire Refill**
★**A-62** ..... **Straight Wire Refill**
★**A-63** ..... **Steel Scraper Blade**

STANDARD WIRE BRUSH

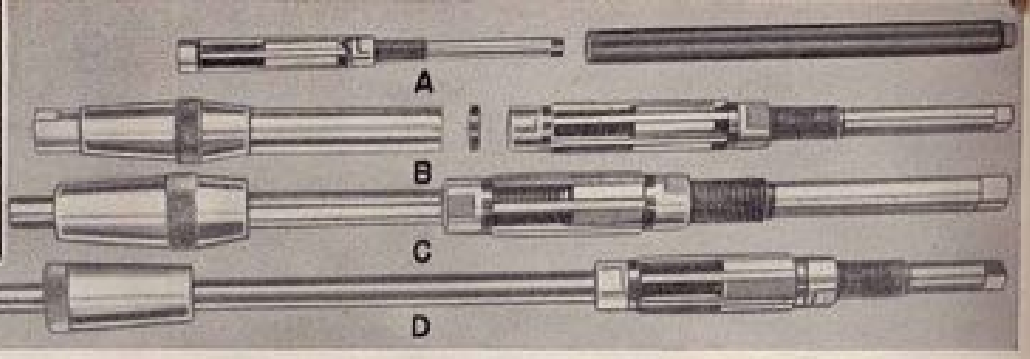
Ⓒ ★**AC-558 Wire Brush.** A good quality wood handle type of brush with bristles securely fastened into the wood to prevent their coming loose. This wire brush is carefully built of sturdy material throughout and offers an inexpensive tool that compares favorably with other makes of its kind.

GAS CLEANING BRUSHES

Ⓓ Made of stiff fibre bristles tightly bound and finished with strong wire handles, these brushes can be used constantly or left standing in gasoline without the bristles swelling or softening. Handles can be bent to hang over the container edge. Use only with gasoline.

★**GA-57A** ..... **Small Brush** (1" dia.)
★**GA-58A** ..... **Large Brush** (2" dia.)

Blue-Point REAMERS
ADJUSTABLE TYPE



ADJUSTABLE REAMERS FOR VALVE GUIDES

A These small adjustable reamers are ideal for valve guides, small bushings, etc. Carefully constructed, they are real precision tools—accurate to split thousandths. Reamers come complete with extension shanks or may be had as separate units.

Reamer with Extension			Reamer Only		Extension Only	
Stock No.	Size		Stock No.		Stock No.	
★385	[illegible]		★8-A		385	
★386	[illegible]		★7-A		386	
★387	[illegible]		★6-A		387	
★388	[illegible]		★5-A		388	
★389	[illegible]		★4-A		389	
★390	[illegible]		★3-A		390	
★391	[illegible]		★2-A		391	

EXTRA LONG ALIGNING REAMERS

D One of the most frequent jobs on electric motors is the installation of new shaft bearings which must be line reamed to assure a smooth running motor. This can be done easily by putting the end bell in place on the motor frame and then reaming the bearings. In this manner you are assured of a true running motor with extremely high percentage of bearing surface.

Stock No.	Size	Blade Length	Reamer Length	
★RL-437	[illegible]	2"	13¼"	
★RL-500	[illegible]	2"	13"	
★RL-562	[illegible]	2"	13"	
★RL-625	[illegible]	2"	15"	
★RL-656	[illegible]	2"	16"	
★RL-687	[illegible]	2"	17"	
★RL-750	[illegible]	2"	18"	
★RL-781	[illegible]	2"	18"	
★RL-812	[illegible]	2"	19"	
★RL-875	[illegible]	2"	19"	
★RL-937	[illegible]	2"	20"	
★RL-1000	[illegible]	2"	21"	
★RL-1031	[illegible]	2"	21"	
★RL-1062	[illegible]	2"	21"	
★RL-1125	[illegible]	2"	24"	
★RL-1250	[illegible]	2"	24"	
★RL-1375	[illegible]	2"	24"	
★RL-1500	[illegible]	2"	24"	

SHORT STYLE REAMERS AND PILOTS

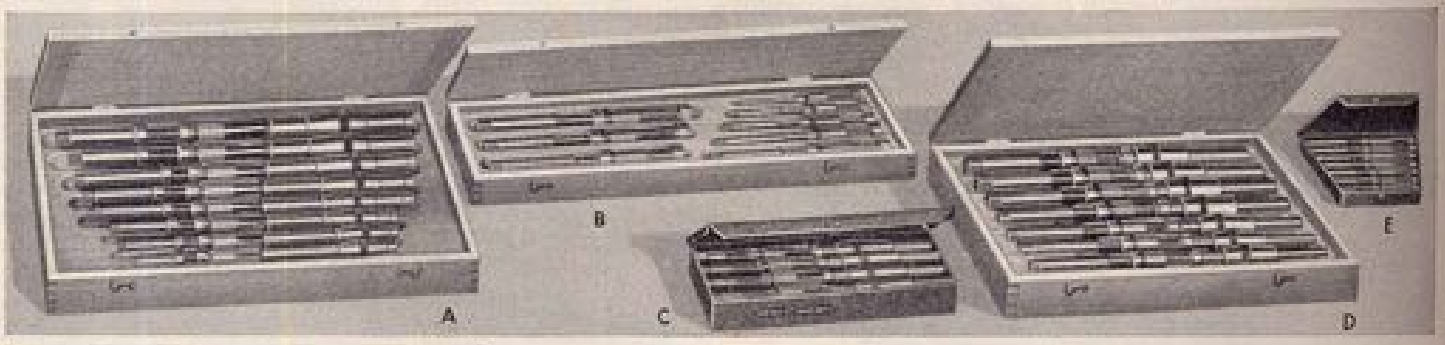
B Critchley type adjustable reamers . . . short style, with pilots available to convert them for line reaming use, as illustrated. Retaining collars at both ends hold the blades firmly yet allow the reamer to be adjusted easily. Staggered blades are placed at the correct angle for a perfect cut. Available in a complete range of sizes from [illegible]" to [illegible]". The bushing included with each pilot has a short taper for connecting rods and a long taper for piston pin and king bolt bushings.

Reamer Number		Pilot Number		Reamer Size	Blade Length	Overall Length	No. of Blades
★RM-468		RMP-468		[illegible]	2"	5½"	6
★RM-531		RMP-531		[illegible]	2"	5½"	6
★RM-593		RMP-593		[illegible]	2½"	6½"	7
★RM-656		RMP-656		[illegible]	2½"	6½"	7
★RM-718		RMP-718		[illegible]	2½"	7½"	7
★RM-781		RMP-781		[illegible]	2½"	7½"	7
★RM-843		RMP-843		[illegible]	3"	8½"	7
★RM-937		RMP-937		[illegible]	3"	8½"	7
★RM-1062		RMP-1062		[illegible]	3½"	10"	7
★RM-1187		RMP-1187		[illegible]	3½"	11"	7
★RM-1343		RMP-1343		[illegible]	4"	12"	7
★RM-1531		RMP-1531		[illegible]	4"	13"	7
★RM-1781		RMP-1781		[illegible]	5½"	15"	7
★RM-2218		RMP-2218		[illegible]	5½"	17"	7
★RM-2750		RMP-2750		[illegible]	6½"	19"	7

LONG STYLE PILOT REAMERS

C Eliminate your reaming worries . . . get perfect alignment every time with these precision built Critchley type adjustable reamers. The blades are placed at the proper angle to give a smooth, shearing cut. Retaining collars at each end hold the blades firmly, protect the reamer nuts, and allow the reamer to be easily adjusted. Double-taper, countersunk bushings slide over the nut and collar of the reamer and follow after the blades as they are adjusted, making the reamer ideal for reaming short bushings.

Stock No.	Size	Overall Length	Blade Length	Stock No.	Size	Overall Length	Blade Length
★RP-437	[illegible]	9½"	2"	★RP-815	[illegible]	12½"	2"
★RP-500	[illegible]	9½"	2"	★RP-885	[illegible]	12½"	2"
★RP-562	[illegible]	9½"	2"	★RP-1062	[illegible]	12½"	2"
★RP-625	[illegible]	9½"	2"	★RP-1125	[illegible]	13"	2"
★RP-687	[illegible]	12½"	2"	★RP-1250	[illegible]	13"	2"
★RP-750	[illegible]	12½"	2"	★RP-1375	[illegible]	13"	2"
★RP-812	[illegible]	12½"	2"	★RP-1500	[illegible]	13"	2"
★RP-860	[illegible]	12½"	2"	★RP-1625	[illegible]	13"	2"



REAMER SETS IN CONVENIENT FITTED BOXES

A ★**RM-3 REAMER SET** contains 8 reamers (with pilots), Nos. RM-468 to RM-937 (range [illegible]" to 1[illegible]"), in wood box.

B ★**RM-1 REAMER SET** contains 8 reamers (without pilots), Nos. RM-468 to RM-937 (range [illegible]" to 1[illegible]"), in wood box.

C ★**RP-168 REAMER SET** contains 4 reamers, Nos. RP-437 to RP-625 (range [illegible]" to [illegible]"), in metal box.

D ★**RP-178 REAMER SET** contains 7 reamers, Nos. RP-687 to RP-1062 (range [illegible]" to 1½"), in wood box.

E ★**A-7 REAMER SET** contains 7 small reamers, Nos. 8-A to 2-A (range ¼" to [illegible]") in metal box.

F ★**RL-19 REAMER SET** contains 6 reamers, Nos. RL-500, RL-625, RL-687, RL-750, RL-812, and RL-1000 (range ½" to 1[illegible]"), packed in metal box.

G ★**394 REAMER SET** contains 7 reamers with extension shank Nos. 385 to 391 (range ¼" to [illegible]") packed in metal box.

384 EXTENSION SHANK SET contains 7 extension shanks Nos. 385 to 391 to fit reamers in A-7 set. Packed in cardboard box.

Blue-Point REAMERS

SOLID TYPE

KING PIN BUSHING REAMERS

A These reamers have milled flutes on the front end to remove burrs or excess metal and allow the pilot to enter freely. Both ends of the reamer are ground to act as pilots, assuring perfect alignment.

Stock No.	Description	Reamer Size	Length
★RR-803	Buick 1929-31 Series 50, 8-cyl. 1929-30. All 1934-46 models 40, 50, 60 and 70 except 2450, 2550, 2460, 2560, and 2600. Olds 1929-46, all models. Pontiac 1932, model 302. 1937-46, six and eight. Marquette series 30, 6-cyl.	.903"	11"
★RR-807	For Chevy 1926 bushing type and all 1937-49 knee-action models. All Packard 6 & 8, 1933-47 inclusive	.807"	11"
★RR-876	For all ⅞" king pin bushings	.876"	11"
★RR-922	For all Chevy 6, 1½-ton trucks except C.O.E. & H.D.	.922"	12¾"
★RR-922-10	Same as RR-922, .010" oversize	.932"	12¾"
★RR-936	Lincoln and Lincoln Zephyr 1937-49 incl. Mercury 1949	.936"	12¾"
★RR-1110	For Chevy trucks C.O.E., V, W, 1½-ton; WC heavy duty, 1½-ton 1936-47	1.110"	13"
★RR-11105	Set of 2 reamers for upper & lower bushings on Timkin axle Nos. 30000 and 31000 series. Reo truck 1940-41, 1½- and 3-ton models 19, 20, 21, 22 series	1.110"	14⅝"
★RR-1130	For all 1939-49 incl. 1½-ton V-8 Ford trucks	1.130"	13"
★RR-14015	Set of 2 reamers for upper and lower No. 3000 Timkin Axle King Bolt Bushings. Used on GMC-200-25-600-850 and Kenworth Diesel trucks model 521	1.403"	14"
★RR-7353	For all Chevy 4 & 6-cyl. 1929-40, all Pontiac 1929-36 (except knee-action models), all Plymouth 1933 PC and PD, 1934 PT and PG	.7353"	12"
★RR-7905	For Plymouth 1934 PE, all Plymouth & Dodge 1935-47 (except Dodge 7 pass. sedan & limousine) and some Chrysler & Desoto cars. Kaiser & Frazer 1946-47	.7905"	11"
★RR-8135A	For all A, B, and V-8 Ford cars including 1949; ½-, ¾-, and 1-ton Ford trucks including 1949; 1929-32 AA Ford trucks and Mercury cars 1939-48	.8135"	11"
★RR-10045	For all AA, BB, and V-8 Ford trucks 1930-37	1.0045"	12¾"
★RR-12355	Set of 2 reamers for upper & lower bushings on 1948-49 Ford trucks 2½- and 3-ton. Diamond T 1940-48 models 702 and 702SBD1500. Reo truck 1946 models 23, 23H, NWL41. Timkin axle Nos. 22000 and 32000 series. Clark axle model F-308. Dodge, Ford school bus, Mack, Studebaker, and Yellow Coach trucks using 1.233 King Bolts	1.2345"	16½"

PITMAN BUSHING REAMERS

A A solid type reamer with milled flutes on the front end to remove burrs for easy entry of the reamer.

Stock No.	Description	Reamer Size	Length
★RR-1126	For Ford, A, AA, B, BB, and V-8 Cars and Trucks to 1948 (except V-8, 1½ Ton) and Chevy 1935-40 inclusive Master and DeLuxe Cars and 1935-46 inclusive Chevy Trucks. Oldsmobile 1935-47 inclusive, Pontiac 1937-47 inclusive	1.126"	10"
★RR-1251	For Ford V-8 1½-Ton Truck 1935-48 inclusive	1.251"	11½"

PISTON PIN BUSHING REAMERS

B These reamers are constructed to ream both the piston and connecting rod bushings. The front end is ground to act as a pilot which makes accurate reaming of the piston and connecting rod an easy operation.

Stock No.	Description	Size Front	Size Back	Length
★RT-750A	For all Ford V-8 cars including 1953 (except 60 H.P.). All Ford V-8 trucks until 1948. All Mercury and Lincoln Zephyr 1937-48 incl. Lincoln 1936-40 incl., standard size	.750"	.751"	7½"
★RT-750-5	Same as RT-750-A .005" oversize	.755"	.756"	7½"
★RT-866	For all 6-cyl. Plymouth and Chrysler 1933-47. DeSoto 1933-47	.866"	.....	11"
★RT-866	For Chevy 6, 1937-47 standard size	.866"	.....	11"
★RT-866-5	Same as RT-866 .005" oversize	.871"	.....	11"

NOTE: Special sizes (within the size range) King Bolt, Piston Pin and Pitman Shaft bushing reamers will be furnished at an additional cost of $1.50 above the cost of the next larger size reamer listed.

ALIGNING REAMERS

B These long aligning reamers are needed for reaming and aligning the bushings on electric motors. All have milled flutes with a pilot on the front end to guide the reamer accurately through the bushing.

Stock No.	Description	Reamer Size	Length
★25L	For sewing machine motors, fans, etc.	¼"	6½"
★26L	For Apex, Royal, Ohio, Premier, Western Electric, Sweeper Vac. and Regina	[illegible]	7½"
★27L	Bee Vac., Federal, Fedalos	[illegible]	7½"
★28L	Super Royal, Cadillac, Beatmaster	[illegible]	7½"
★29L	Eureka, Cadillac	[illegible]	7½"
★29LA	Western Electric, Sweeper Vac.	[illegible]	7½"
★29LB		[illegible]	8"
★29LC		[illegible]	8"
★30L	G.E. and other washing machine motors	[illegible]	10"
★31L		[illegible]	11"
★32L		[illegible]	11"
★33L		[illegible]	13"
★35L	Western Electric and Sweeper Vac.	[illegible]	7½"
★36L	Hoover 103	[illegible]	7½"
★37L	Hoover 103-105-541	[illegible]	7½"

VALVE GUIDE REAMERS

B A solid type reamer with long shank for effectively removing carbon and truing the valve guide in one operation.

Stock No.	Reamer Size	Length	Stock No.	Reamer Size	Length
★1000	[illegible]	[illegible]	★1005A	[illegible]	8"
★1001	[illegible]	[illegible]	★1006	[illegible]	8"
★1002	[illegible]	[illegible]	★1007	[illegible]	8"
★1002A	[illegible]	8"	★1007A	[illegible]	8"
★1003	[illegible]	8"	★1007B	[illegible]	8"
★1004	[illegible]	8"	★1008	[illegible]	8"
★1005	[illegible]	8"	★1009	[illegible]	8"

VALVE GUIDE REAMER SETS

★**1016-RS Reamer Set.** Contains 4 valve guide reamers Nos. 1000, 1002, 1003 and 1006 (15/16", 11/32", ⅜" and 5/16") in metal box as illustrated.

★**1015-RS Reamer Set.** Contains 5 valve guide reamers Nos. 1000, 1002, 1003, 1006 and 1008 (15/16", 11/32", ⅜", 5/16" and ⅜") in metal box.

ALIGNING REAMER SET

★**20-LS REAMER SET** contains 7 aligning reamers described at left. Stock Nos. 25L, 26L, 27L, 28L, 29L, 36L, and 37L (a size range of ¼" to 7/16"), put up in a neat metal box as illustrated.

CUTTING OIL

A **RCO-32 Cutting Oil.** One quart size. Should be used for all reaming work as well as drilling and tapping. Prevents galling and chattering and helps produce a finer, more accurate finish. Cuts down resharpening of tools. Metal can has handy spout for applying oil.

BALL BEARING LUBRICANT

B **UN-1 Lubricant.** Made expressly for ball bearings and furnished in a special, long nozzle tube for easy application. All bearings except the sealed type require occasional lubrication to keep them rolling freely and prevent wear.

PRESSURE OILER

C ★**OC-5 Pressure Oiler.** Capacity 5 ounces. A squeeze of the trigger delivers either a drop or a fine stream of oil. The long tapered spout is 3½" long, its removable screw-on tip has a shoulder to facilitate lifting the spring loaded oiler caps. O.D. is only 1⅛", finished in aluminum lacquer.

★**OCH-5 Oiler Holder.** Fastens to wall or bench to hold OC-5.

Blue-Point TAPS and DIES

★TD-9900B Complete Set. All the thread cutting equipment necessary to handle NF and NC threads in ¼" to 1" diameters, a series of 6 machine screw sizes 4-36 to 12-24 and ⅛" and ¼" pipe sizes. Set contains all the taps listed at bottom of page and all the dies except the D-014, D-019, DR-032 and DR-037 sizes. Also included are the TD-3, TD-10, TD-15 and TD-35 die stocks and the TD-4, TD-20 and TD-45 tap wrenches. The fitted wood case affords a safe, permanent means of storing the tools. Tray section lifts out and is placed in the lid during use. See illustration at the left.

★TD-2500 Machine Screw Set. A set of high quality taps and dies to handle these small machine screw threading jobs. Dies are one-piece hexagon type, adjustable from .001" to .003" under or oversize. Includes taps and dies sizes 4-36, 6-32, 8-32, 10-24, 10-32 and 12-24 listed below, and the TD-4 4-Jaw Tap Wrench and TD-3 Die Stock. In fitted wood case as shown above.

★TD-2400 Standard Set. A compact assortment of the taps and dies most commonly used in garages, service stations, etc. Dies are one-piece double hexagon type and can be used with a 1" socket in close quarters. This popular set contains N. F. sizes ¼"-28, 5/16"-24, ⅜"-24, 7/16"-20, ½"-20; N. C. sizes ¼"-20, 5/16"-18, ⅜"-16, 7/16"-14, ½"-13, and ⅛" pipe thread, together with TD-2 Tap Wrench and TD-10 self-centering Die Stock. Complete in fitted wood case shown above.

★TD-1800 Intermediate Set. Handles N. F. and N. C. thread sizes ½" to ¾". The dies in this set are one-piece 1½" diameter round type, adjustable to give a tight or loose fit—.001" to .003" under or oversize. N. F. sizes are ½"-20, 9/16"-18, ⅝"-18, ¾"-16. N. C. sizes are ½"-13, 9/16"-12, ⅝"-11, ¾"-10. The TD-35 Self-centering Die Stock and TD-20 Tap Wrench complete the set which comes in a sturdy fitted wood case as illustrated above.

Blue-Point Taps and Dies give you more than appearance—they give you the finest and toughest thread cutting tools you ever bought. Try them and you'll agree.

Dies ¼" to ½" are one-piece, double hex type . . . a major convenience as they can be turned with a one inch socket wrench in close quarters where regular die stocks cannot be used. Machine screw dies 4-36 to 12-24 are ⅝" hexagon and dies ½" to ¾" are one-piece circular type. Both types are adjustable to give a tight or loose fit to your thread—a small adjusting screw changes the nominal die size from .001" to .003" under or over. Dies ⅞", 7/8" and 1" are available in "Chaser" type 4-piece sets, listed below. The three largest die stocks are self-centering and adjust to the diameter of the rod or bolt, insuring an accurate, straight thread . . . prevents dies from breakage due to tilting.

DIE STOCKS AND TAP WRENCHES

TD-3 Die Stock	For hexagon dies 4-36 to 12-24
TD-10 Die Stock	Self-centering for 1" diam. hex dies
TD-15 Die Stock	Self-centering for chaser-type dies
TD-35 Die Stock	Self-centering for 1½" diam. round dies
TD-2 Tap Wrench	Clamp-type for ¼" to ½" taps
TD-4 Tap Wrench	4-jaw chuck, for 4-36 to 12-24 taps
TD-20 Tap Wrench	Clamp-type, for ½" to 1" taps
TD-45 Tap Wrench	4-jaw chuck, for ¼" to ½" taps
EH-10 Tap Wrench	4-jaw chuck, for 6-32 to 10-32 taps
EH-20 Tap Wrench	4-jaw chuck, for 5/32" to 5/16" taps
EH-30 Tap Wrench	4-jaw chuck, for ¼" to ½" taps
EH-40 Tap Wrench	2-jaw chuck, for ¼" to ½" taps
EH-50 Tap Wrench	2-jaw chuck, for ⅛" to 5/32" taps

BLUE-POINT TAPS AND DIES

National Fine Sizes

Thread Size	Taps No.	Dies No.	Dies Type
¼"-28	★T-105	★D-015	1" Hexagon
5/16"-24	★T-106	★D-016	1" Hexagon
⅜"-24	★T-107	★D-017	1" Hexagon
7/16"-20	★T-108	★D-018	1" Hexagon
½"-20	★T-109	★D-019	1" Hexagon
½"-20		★DR-019	1½" Round
9/16"-18	★T-115	★DR-035	1½" Round
⅝"-18	★T-116	★DR-036	1½" Round
¾"-16	★T-117	★DR-037	1½" Round
⅞"-14		★DC-037	Chaser
7/8"-14	★T-118	★DC-038	Chaser
1"-14	★T-119	★DC-039	Chaser

National Coarse Sizes

Thread Size	Taps No.	Dies No.	Dies Type
¼"-20	★T-100	★D-010	1" Hexagon
5/16"-18	★T-101	★D-011	1" Hexagon
⅜"-16	★T-102	★D-012	1" Hexagon
7/16"-14	★T-103	★D-013	1" Hexagon
½"-13	★T-104	★D-014	1" Hexagon
½"-13		★DR-014	1½" Round
9/16"-12	★T-120	★DR-030	1½" Round
⅝"-11	★T-121	★DR-031	1½" Round
¾"-10	★T-122	★DR-032	1½" Round
¾"-10		★DC-032	Chaser
7/8"-9	★T-123	★DC-033	Chaser
1"-8	★T-124	★DC-034	Chaser

Machine Screw Sizes

Thread Size	Taps No.	Dies No.	Dies Type
4-36	★T-111	★D-021	⅝" Hexagon
6-32	★T-112	★D-022	⅝" Hexagon
8-32	★T-113	★D-023	⅝" Hexagon
10-24	★T-114	★D-024	⅝" Hexagon
10-32	★T-115	★D-025	⅝" Hexagon
12-24	★T-116	★D-026	⅝" Hexagon

Pipe Sizes

Thread Size	Taps No.	Dies No.	Dies Type
⅛"	★T-136	★D-046	1" Hexagon
¼"	★T-136	★D-046	1" Hexagon

Note: Because of the nature of their use, taps and dies cannot be guaranteed.

A TYDEMAN HONE SET EQUIPS YOUR SHOP

These hones not only enlarge holes—they true them also. They work in all metals . . . hardened steel, cast iron, brass, aluminum, bakelite, glass, plastics, or any material that can be ground. They're portable and you can drive them with a regular ½" drill—or you can turn them by hand. Two different hone lengths are available to fit your particular needs.

They have more grinding surface than other similar tools—the full 8" of length on the large size hone blades will hone two bearing surfaces truly in line. Both tools use economical, easy-to-replace grinding sheets that actually cost less than sharpening reamers.

A micrometer stop, adjustable to .00025", enables you to hone to exactly the correct tolerance. Simply preset the micrometer and expansion is stopped at that setting. The Speed Sleeve automatically expands the blades as fast as the metal cuts away—without further adjustments . . . you can remove as much as ¼" about as fast as you could ream it—and do a precision finished job.

A unique, four-point driven universal joint at the drive end of the tool is free-rolling . . . the tool spins with scarcely a waver without holding the end. This universal joint rolls freely at better than 600 R.P.M., prevents flopping when you let go of the speed sleeve to try the fit.

Blades ride full length on the tapered body—top surfaces of blades are always parallel at any expansion—cannot bow at any point. Relieved sections at sides of blade prevent cuttings from piling up on abrasives. The smaller blades are reinforced at one end for added strength. Order blades and abrasives by stock number.

TH-10 LONG BLADE TYPE—8" LONG

TH-10 Tydeman Hone Set. Contains TH-10-1 body assembly, 10 pairs of standard blades listed below at left and one pair of abrasives for each pair of blades. Set comes complete with No. 10-TY Metal Box. Size range of this set is 1 1/16" to 1 9/16".

TH-10-1 Body Assembly, includes speed sleeve and 1 pair of standard blades. State stock number of blades needed.

Standard Blades and Abrasives

Blades (Pairs)			Abrasives Fine	Abrasives Coarse
10-2-A	1 1/16" to ¾"	Uses	★10-3A22	★10-3B22
10-2-B	¾" to 13/16"	"	★10-3A24	★10-3B24
10-2-C	13/16" to ⅞"	"	★10-3A26	★10-3B26
10-2-D	⅞" to 15/16"	"	★10-3A28	★10-3B28
10-2-E	15/16" to 1"	"	★10-3A30	★10-3B30
10-2-F	1" to 1 1/16"	"	★10-3A30	★10-3B30
10-2-G	1 1/16" to 1⅛"	"	★10-3A30	★10-3B30
10-2-H	1⅛" to 1 3/16"	"	★10-3A30	★10-3B30
10-2-J	1 3/16" to 1¼"	"	★10-3A30	★10-3B30
10-2-K	1¼" to 1 7/16"	"	★10-3A30	★10-3B30

Special Blades and Abrasives

Blades (Pairs)			Abrasives Fine	Abrasives Coarse
10-2-M	1 3/16"	Uses	★10-3A30	★10-3B30
10-2-N	1⅜"	Uses	★10-3A30	★10-3B30
10-2-Q	1 7/16"	Uses	★10-3A30	★10-3B30

Abrasive sheets available in dozen lots in any one size.

★10-3A—Package of 24 assorted sheets of fine abrasives.

★10-3B—Package of 24 assorted sheets of coarse abrasives.

Order blade pairs and abrasives by stock numbers to eliminate shipping errors.

TH-6 SHORT BLADE TYPE—5¾" Long

TH-6 Tydeman Hone Set. Contains TH-6-1 Body Assembly, 6 pairs of standard blades listed below and 7 pairs of abrasives in the 6-TY metal box. Size range of .735-1⅛".

TH-6-1 Body Assembly, includes speed sleeve and 1 pair standard blades, state size needed when ordering.

Standard Blades (Pairs)	Size	Special Blades (Pairs)	Size
TH-6-2A	.735"-13/16"	TH-6-2S	.703"-.750"
TH-6-2B	13/16"-⅞"	Following sizes use 1-4A & 1-4B abrasives.	
TH-6-2C	⅞"-15/16"	TH-6-2G	1⅛"-1 3/16"
TH-6-2D	15/16"-1"	TH-6-2H	1 3/16"-1¼"
TH-6-2E	1"-1 1/16"	TH-6-2J	1¼"-1 7/16"
TH-6-2F	1 1/16"-1⅛"		

Abrasives for TH-6 Hone

★1-3A .703-1⅛". Fine Abr. Pkg. of 24 sheets.
★1-3B .703-1⅛". Coarse Abr. Pkg. of 24 sheets.
★1-4A 1⅛"-1 3/16". Fine Abr. Pkg. of 24 sheets.
★1-4B 1⅛"-1 3/16". Coarse Abr. Pkg. of 24 sheets.

SPARK PLUG TAP SET

[A] Repairs damaged threads in aluminum heads. If threads are badly stripped it may be necessary to rebore the hole with the counterboring tool and rethread for the next size spark plug. The MCB-3 Counterbore will ream a 10 mm. hole to a 14 mm., a 14 mm. to 18 mm., and an 18 mm. to a ¾". Turn with a wrench or electric drill.

★TDM-13 Spark Plug Set. Four Spark Plug Taps and Counterbore in box as illustrated.

★TDM-11 Set of Four Spark Plug Taps. In box.

★MCB-3 Counterbore.

★T-10100 ..... 10mm. x 1.00 Tap
★T-14125 ..... 14mm. x 1.25 Tap
★T-18150 ..... 18mm. x 1.50 Tap
★T-2818 ..... ⅞" x 18 N.F. Tap

THREAD RESTORERS

[B] A few strokes across battered threads, produce a true new thread—nut will then go on easily. Each tool has 8 thread sizes.

★K-1124 Has 11, 12, 13, 14, 16, 18, 20, and 24 threads to the inch.

★K-1127 Has 9, 10, 13, 16, 20, 26, 28, and 32 threads to the inch.

AXLE RETHREADING TOOL

[C] **★AR-6A Axle Rethreader.** Here is a tool that does a fast job of restoring battered axle threads. Though very compact it contains the six most popular axle thread sizes in use. Tool is placed around the axle where the thread is still in good condition. The end clamp holds the two pieces securely in place while the tool is worked over the damaged part to restore it to its original condition. Contains the following sizes: ⅝"-18, ¾"-16, ⅞"-14, 1"-14, 1⅛"-12 and 1¼"-12.

INVERTED FITTING CHASER SET

[D] **★TDC-3 Chaser Set.** These combination chasers are specially designed to retap and rethread tube fittings of the inverted flared type. By restoring damaged threads in these units you can save yourself the time required to remove the old fitting, replacing with a new one and then reflaring the tube. The three sizes below fit most hydraulic brake lines as well as some gas and oil lines in use on present day cars. Set contains 3 sizes as listed:

★TDC-1224 ..... ⅜" - 24 Chaser
★TDC-1424 ..... 5/16" - 24 Chaser
★TDC-1620 ..... ½" - 20 Chaser

UNIVERSAL RETHREADING TOOL

[E] **TR-20 Universal Rethreader.** Here is a rethreading tool that will handle practically all rethreading work you'll run across and do a fast, accurate job of restoring it to original condition. This tool has a capacity of ½" to 5" diameter for bolt threads and ½" to 4" for pipe threads. Seven chasers with two sizes each are included with the TR-20 to recut threads from 6 to 24 pitch. The TR-20-10 Chaser is available as an additional unit. Chasers are machined from the highest quality tool steel and are carefully heat treated to assure long wearing cutting edges. A metal ring is provided for convenience in holding the chasers.

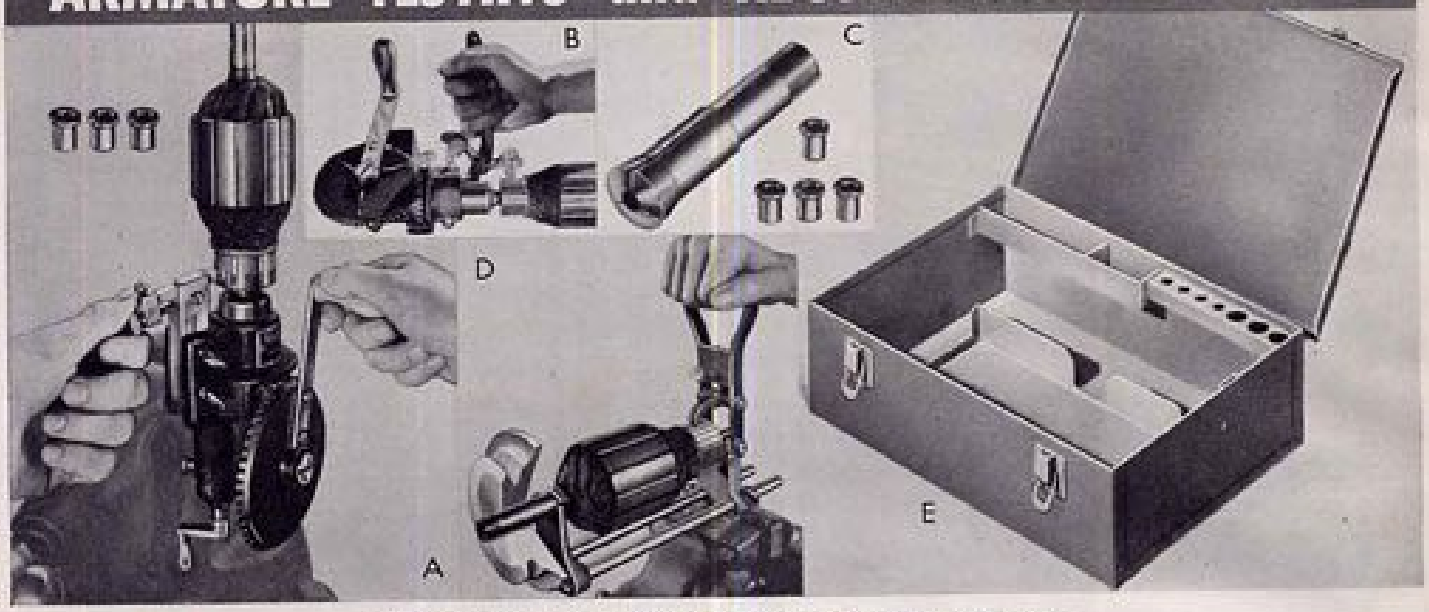
The chaser holding bracket of the tool is so designed that threads can be recut right up to a beveled edge or square shoulder. The adjustable jaw has a liner of soft brass to protect the threads from further damage while being recut. This liner is subject to hard wear but it can be easily replaced.

★TR-20-5 Soft Brass Liner

Chasers—Stock No. and Thread Pitch

★TR-20-10	4 & 5	★TR-20-14	11½ & 12
★TR-20-11	6 & 7	★TR-20-15	13 & 14
★TR-20-12	8 & 9	★TR-20-16	16 & 18
★TR-20-13	10 & 11	★TR-20-17	20 & 24

ARMATURE TESTING and RECONDITIONING TOOLS



BLUE-POINT ARMATURE RECONDITIONING TOOLS

A B **AT-2 Armature Reconditioning Tool.** Handles both phases of the job . . . turns down the commutator—undercuts the mica. Simply lock this tool in a vise and you're all set to do a fast, accurate job. This tool is a well engineered, substantially built machine which turns out work comparable to that done on expensive lathes—yet is priced low to show a profit quickly.

The AT-2 handles armatures with ½", 9/16", ⅝" and 11/16" shafts . . . does not require special centerless chucks . . . does the job faster than a lathe—without removing back plates. Amount of cut is controlled to the finest shaving. Bottom handle raises the armature to starting position and the armature lowers automatically as the cut is made. After commutator is turned down, replace the cutter bar with the AT-2-39 mica undercutting tool, which is furnished as part of the AT-2. Use in horizontal position, as shown, to undercut mica. Tool includes one double-end tool steel cutter blade and .015", .020", and .025" Mica Saw Blades.

Extra Cutters and Blades

★AT-2-16 ..... Armature Cutter Blade only.
★AT-2-35A ..... .015" Mica Saw Blade only.
★AT-2-35B ..... .020" Mica Saw Blade only.
★AT-2-35C ..... .025" Mica Saw Blade only.

A **AT-2X Armature Turning Tool.** For mechanics who have a mica undercutter or prefer to use the UC-6 Tool (item B). Tool includes one AT-2-16 double-end tool steel cutter blade.

C **AT-2550 Small Collet and Bushing Set.** Adapts the AT-2 Armature Reconditioner to the majority of fractional power motors used in vacuum cleaners, fans, sewing machines, etc. Handles shafts as small as .265" diameter. Set includes—

AT-25752 ..... ⅜" Collet
AT-25755 ..... 5/16" Bushing
AT-25756 ..... .296" Bushing
AT-25757 ..... .281" Bushing
AT-25758 ..... .265" Bushing

D **KR-108 Metal Case.** Designed to hold all the armature reconditioning tools shown above. Special compartments provide for storage of the small bushings and collets. 13½" x 9½" x 4½" high. Baked on red enamel finish. Metal carrying handle on top. Cover is held by two sturdy hinges and two snap hasps.

ARS-11-B Armature Tool Set. Consists of AT-2 Tool in KR-108 metal case.

ARS-12-B Armature Tool Set. Consists of AT-2X turning tool and UC-6 mica undercutter in KR-108 metal case.

B **UC-6 Mica Undercutter.** To our knowledge this is the only undercutter, including the electric rotary type, that is primarily designed to eliminate the packing of copper chips in the corners. This is accomplished by the use of reverse teeth in the cutter which do the actual cutting on the return stroke. This reverse action feature also makes the teeth of the cutter blade self-cleaning.

With this inexpensive tool you can quickly turn out a precise undercutting job. Simply clamp the base of the undercutter in a vise and attach the commutator. Complete instructions are furnished. The UC-6 Undercutter is designed to handle a wide range of commutator sizes and it should not be necessary to readjust to a parallel position each time you undercut an armature. The adjustable "V" base enables you to handle armatures without removing the pulley or end bell. One each of the three blades listed below are included with the tool.

Extra Saw Blades

★UC-6-015 ..... .015" Thickness Saw Blade
★UC-6-020 ..... .020" Thickness Saw Blade
★UC-6-025 ..... .025" Thickness Saw Blade

BLUE POINT ARMATURE GROWLERS

Left—Model AT-46 Right—Model AT-12

Note: Use these growlers on 110 volt A.C. 60 cycle current. When a growler is connected to the line current always be sure that the "V" is bridged with an armature before turning the switch to "ON" position . . . unbridged growler coils burn out quickly.

AT-46 Meter-Type Armature Growler. The meter indicates a defective winding, poorly soldered connections, severed coils, transposed leads, nature of defect and its exact location in the armature, etc. Three way switch turns to "HIGH" and "LOW" resistance or turns current off entirely.

The "HIGH" position is for generator armatures and the "LOW" for starting motor armatures. A ruby test light is mounted on the panel. When using growler simply place the armature in the "V" and turn switch to the proper "HIGH" or "LOW" position. The two testing points can be used when the unit is connected with the source of A.C. current while leaving the growler line switch in the "OFF" position. Instruction booklet shows correct way to use this growler.

AT-12 Armature Growler. Checking armatures for short circuits, open circuits and grounds in armature windings is a must when reconditioning motors and generators, if satisfactory operation is to be the result. To do this job quickly yet accurately, an armature growler is an absolute necessity. This is a well built unit of simpler construction than the one described at left. The AT-12 is a compact growler complete with prods, test lamp socket and switch; all mounted on a metal base. Screw in an ordinary light bulb, connect the growler to an electric outlet, and you are all set to check and find the source of the armature trouble. Separate wiring for the test prods makes them independent of the switch allowing them to be used without the growler coil in operation.

THESE TOOLS WILL SHORTEN TUNE-UP TIME

MOTOR TUNE-UP SET

(A) **MT-315-8 Motor Tune-Up Set.** With this set any mechanic can quickly tell "What's" wrong with a motor, and "where" . . . can shorten tune-up time and turn out easy-starting, sweet-running jobs that will satisfy your customers and bring more business. And . . . each tool is a dependable precision instrument — gauges are designed like watches, with bushed bearings and ultra-sensitive spring movements.

The set consists of the following fifteen units: MT-24D Compression Gauge, MT-24D-8 Adaptor, MT-14 Vacuum Gauge with nine adaptors listed below, MT-50 Timing Light, MT-16 Adaptor Jack, and MT-25 Cylinder Pressure Adaptor complete in a sturdy metal case KR-135. Case has our standard red enamel finish.

VACUUM GAUGE

(B) **MT-14 Vacuum and Fuel Pump Gauge.** Accurately detects a wide range of engine troubles from leaky manifolds to weak valve springs. The 3-color, 3½" dial tells at a glance the source of trouble.

Normal motor and fuel pump divisions are outlined in green. Faulty motor divisions are outlined in red, further sub-divided into —"Leaky Manifold," "Heat Riser," and "Late Ignition or Carburetor Adjustment." Complete instructions are packed with the gauge. Adjustable restriction screw controls and minimizes the indicator vibrations, assuring more exact readings. Four feet of hose are included.

VACUUM GAUGE ADAPTORS

These adaptors are needed to attach the MT-14 Vacuum Gauge hose to various carburetor or fuel pump connections.

(C) **MT-12-10** ¼" pipe thread

(D) **MT-12-12** ½"-20 thread

(E) **MT-14-6** ¼" X 18 pipe thread

(F) **MT-14-7** ¼" pipe x 5/16"-24

(G) **MT-14-8** ½"-20 thread

(H) **MT-14-9** 5/16"-24 thread

(I) **MT-14-10** ¼" pipe 3-way

(J) **MT-14-11** Hose Coupling

(K) **MT-14-12** Tube connector

CYLINDER PRESSURE TESTING ADAPTOR

(L) **MT-25 Cylinder Pressure Testing Adaptor.** You can check for leaky valves or gaskets, bad rings or cracks in the block with this adaptor. On overhead valve jobs it can also be used to hold a valve up in position while the springs are being replaced. Simply turn the adaptor into the spark plug hole, and use an air hose to inject air pressure into the cylinder via the adaptor. A tire valve installed in the tool holds the pressure until released. For replacing valve springs on overhead valve engines, air can be injected into the cylinder and the pressure will hold the valve up on its seat while the springs and retainers are being replaced. For use on 14mm spark plug holes only. 2 5/16" long.

COMPRESSION GAUGE

(M) **MT-24D Compression Gauge.** Redesigned and improved, and furnished complete with a service kit of expendable parts. Registers from zero to 200 pounds compression per square inch . . . holds the highest compression reading exactly until the release valve button is pressed. The gauge may thus be removed from the spark plug hole for easier reading. A big improvement over previous models is the use of a new check valve especially designed and built for this gauge. This valve is quite similar to a regular inner tube valve but do not use an ordinary valve as a replacement as it will cause inaccurate readings. A spare valve is included in the service kit.

The 2½" diameter dial is calibrated into 5 pound divisions . . . the cover is easily replaced if damaged. The cone tip is made of neoprene and is not affected by grease or gasoline . . . swivels to reach and fit all spark plug holes.

MT-24DR Service Kit included with each of the above gauges consists of the following parts. Cone tip, valve and sealing ring in drawstring bag. Note: this kit is for model MT-24D gauge only.

COMPRESSION GAUGE ADAPTOR

(N) **MT-24D8 Compression Gauge Adaptor.** This extension fits on the MT-24D or older MT-24C gauges so they can be used on the Chrysler line of V-8 engines with deep set spark plug openings. The cone assembly of the gauge is removed and the adaptor threaded onto the end of the shaft. Replacing the cone assembly leaves the gauge ready for use. When installed, the distance between the tip of the cone and the release valve is 6½".

SNAP-ON TIMING LIGHT

(O) **★MT-50 Timing Light.** Features a new glass enclosed pronged neon tube which gives a brighter light than most units and can be replaced as quickly and easily as a radio tube. Concentrating lens is recessed in the case for greatest protection. The 1½" diameter by 5 5/16" long case is made of tough black plastic and has a high heat resistance.

The small diameter makes it easy to get down to the timing marks and is especially useful on GM cars, International Trucks and on cars where the timing marks are on the flywheel. Synthetic rubber-covered, high tension ignition cable leads are four feet long and have rubber covered alligator clips to prevent shocks. The two piece case unscrews for replacement of parts.

★MT-50-4 Replacement Neon Tube only.

TIMING LIGHT ADAPTOR JACK

(P) **MT-16 Timing Light Adaptor Jack.** Many cars have completely shielded ignition leads making it impossible to connect the timing light lead to the spark plug. This brass adaptor slips into the distributor lead opening, and the lead is then attached to the other end of the adaptor. Sufficient contact area remains for clipping on the timing light. Overall length 2".

SNAP-ON POWER TIMING LIGHTS

Makes split-second daylight testing easy on ignition timing, synchronism, governor action and distributor shaft play. Zero degree time lag shows light flash and spark at identical instant. Brilliant high speed flash tube throws a powerful beam at all engine speeds.

Four feet long flexible Neoprene leads are oil and grease resistant and have large alligator clips for attaching across the battery, starter, etc. Either lead can be connected to the positive side with equal results. The third lead is attached to the spark plug to furnish the flash impulse. The power unit accumulates power from the battery and releases it in a brilliant flash.

Molded Neoprene case withstands rough service, provides protection against shock and is completely grease and oil resistant. The large pistol-type grip assures convenient, slip-proof handling. 90-day guarantee.

TL-95A Timing Light for 6-volt systems.

TL-95AX Timing Light for 12-volt systems.

★TL-95-1 Replacement Bulb only.

STARTER CURRENT INDICATOR

MT-109A Starter Current Indicator. Stop battery charging kick-backs and increase the starter work in your shop. This tool shows whether the starter motor is drawing too much current and will run down the battery in short time . . . protects you from customers who claim that their battery was not charged properly.

The metal channel is held over the cable while the starter switch is pressed and the indicator shows the amperage drawn by the motor . . . charts are packed with the tool. Too high indicates worn bearings, grounded fields or armature coils. Too low with sluggish motor means excessive starter circuit resistance.

PISTON SERVICE TOOLS

PISTON RECONDITIONING TOOLS

RC-37K Piston Reconditioning Set. Contains all units listed below, including a ring groove cleaner for all pistons up to 6" diameter complete with cutter blades to fit 5/32" to 5/16" grooves.

Attachments include a Chamfer Cutter for cutting 45° chamfer on the bottom edge of the oil ring groove, a Drill Jig for piloting a 5/32" drill so that an oil relief hole can be drilled at exactly the right angle and a Land Cutter to reduce swelled lands on aluminum pistons.

The chamferer and land reducer are used in place of the cutter wheel . . . the drill jig is mounted as illustrated above. Uniform tension and non-chatter cutting action is maintained by a compensating spring on the tilting cutter arm.

RC-37 Ring Groove Cleaner, with RC-37A Cutter only.

RC-37A Cutter Wheel, 5/32", 1/8", 5/32" and 5/16" Blades.

RC-37D ..... **Drill Piloting Jig**

RC-37E ..... **Land Cutter & Holder**

RC-37F ..... **Chamfer Cutter & Holder**

RING COMPRESSORS

The ratchet control on this piston ring compressor holds the tension bands in position with no danger of slipping as the piston is inserted into the cylinder, and "V" beads on the lower edge of the main belt keep the tool from entering the cylinder. The outer tension bands of 1/2" wide fine spring steel equalize the tension over the entire width of the belt, so that the entire ring assembly, no matter how stiff, may be gently and firmly compressed into the grooves until flush with the piston.

A slight pressure on the release trip allows the tool to be expanded ready for the next assembly. These tools are simple . . . fast . . efficient and adaptable to a wide range of piston sizes.

★RC-30 Compressor. 1-band model. 1 1/2" to 3" capacity, depth 2". This model does not have the ratchet controlled action.

★RC-40B Compressor. 2-band model. 2 1/4" to 5" capacity, depth 3 1/2".

★RC-50B Compressor. 2-band model. 3 1/2" to 7" capacity, depth 3 1/2".

★RC-150 Compressor. 4-band model. 3 1/2" to 7" capacity, depth 6 1/2".

PISTON RINGER

★PRS-7 Piston Ringer. If you are looking for an easy way to install piston rings, here is your answer . . . and with no danger of breaking or distorting rings, or of injuring your hands. Just slip the ring opening between the jaws of this tool, and squeeze the handles . . . the Piston Ringer does the rest.

Here's how it works. The first pressure on the handles operates the clamping jaws which grip the ends of the rings securely. After these jaws are clamped on the ring, further pressure on the handles expands the rings evenly so that they will slip over the piston and into the groove. The PRS-7 is 7" long and will handle rings up to 15/64" in thickness.

This iron goes to work fast . . . pressing the button shoots a booster charge of 100 watts within the tip—brings it to soldering heat in 40 seconds. Then, without using the button, 23 watts maintain tip temperature of over 500°F.

The hermetically sealed dual element is located entirely within the tip—right where you want the heat . . . element wires are non-corroding monel. For heavy soldering jobs, full current is always available by pressing the button.

The light weight of the "Vari-Hot" . . . only 10 ounces—and the convenient, shock-proof Durez pistol grip make it easy to handle and control. A sliding collar on the shaft keeps hot tip away from bench surface when laid down . . . yet pushes up the shaft to allow entrance through small openings. Phosphor-bronze switch has pure silver contact points—will not flash or arc . . . six foot cord has Coroprex covering impervious to oil, grease, and temperature.

Tips have special "Vanderloy" plating which "tins" very readily and will give a great many extra hours of operating service. These tips should never be filed and care should be taken not to damage the plating, otherwise the copper will become exposed and difficulties common to ordinary tip care will occur. Simply wipe these tips when hot to clean them, and they will last indefinitely.

Two Models

R-115A ..... 115 Volt Soldering Iron, with R-115A-9 Tapered Chisel Tip.

R-28A ..... 28 Volt Soldering Iron, with R-115A-9 Tapered Chisel Tip.

Additional Tips Available

R-115A-9 ..... Tapered Chisel Tip

R-115A-10 ..... Full Chisel Tip

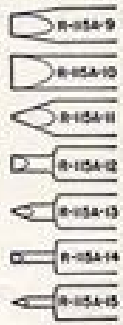
R-115A-11 ..... Full Pyramid Tip

R-115A-12 ..... 3/16" Dia. Chisel Tip

R-115A-13 ..... 3/16" Dia. Pyramid Tip

R-115A-14 ..... 1/4" Dia. Chisel Tip

R-115A-15 ..... 1/4" Dia. Pyramid Tip



For standard power circuits order Model R-115A, 110-115 volt AC/DC unit. For aircraft and marine use from ship's supply order Model R-28A, 28-32 volt AC/DC unit. This latter model affords the same temperatures as the R-115A. The 28 volt input is 0.9 amperes at idling temperature and 3.6 at high heat.

ELECTRIC SOLDERING IRONS

★GA-38 Soldering Iron. Has a large, heavy 1 1/4" tip. Will hold heat much longer than smaller irons. Solid compressed copper tips are easily replaceable. This model is for 105-120 volts AC/DC, 275 watts. 210-240 volt irons available.

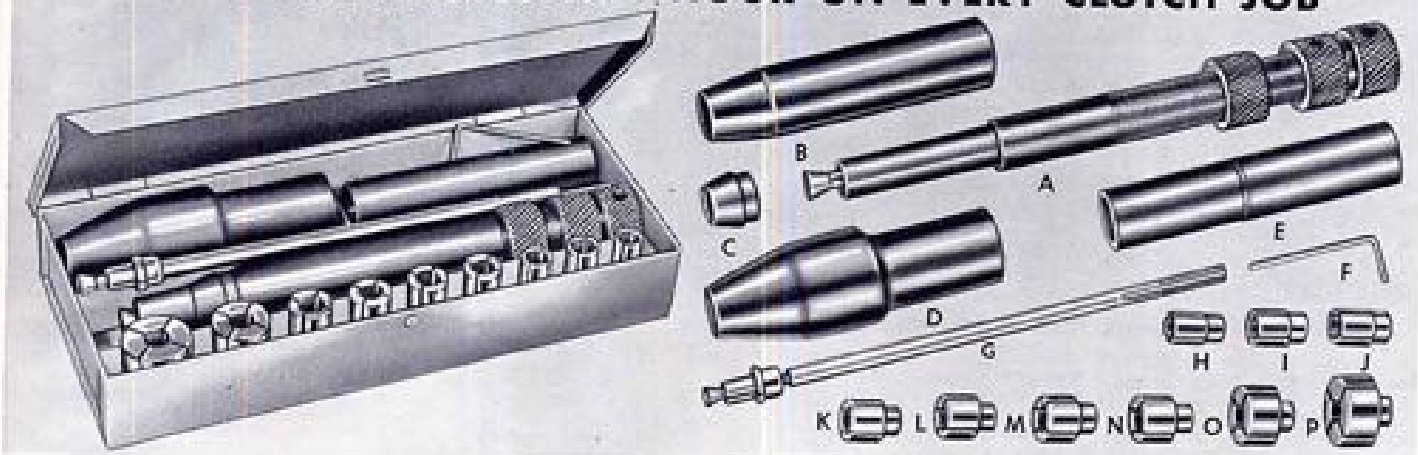
★GA-38A Extra 1 1/4" tip.

★GA-20 Soldering Iron. Has a 1/2" tip for radio and other light work. It is fast heating and holds heat long enough for this class of work. 105-120 volts, AC/DC 90 watt. We also have 210-240 AC/DC soldering irons available on special order.

★GA-20A Extra 1/2" tip.

Snap-on UNIVERSAL CLUTCH ALIGNER SET

SAVES 20 MINUTES TO 1 HOUR ON EVERY CLUTCH JOB



This Snap-on Clutch Aligner will align single disc clutches on any passenger car or truck. The outstanding feature of this revolutionary tool is that it locks firmly in the clutch pilot bearing and leaves both your hands free to replace and tighten the compressor plate . . . a tremendous asset in efficient clutch repair and replacement. When necessary, the tool can be operated through the bell housing. This aligning tool does away with such slow and tiresome methods as using old splines and taking transmissions apart . . . gives you in one tool a quick, accurate, clutch aligning service for the complete range of automotive single disc clutches.

It is amazingly simple to use, the correct size of expanding pilot is placed on the tool and locks securely in the pilot bearing—the sliding tapered sleeve is adjusted to center the clutch plate and hold it firmly in place while you complete the assembly. A tool of such outstanding time and labor saving qualities is a necessity in every auto repair shop.

PASSENGER CAR SET

A-37D-8 Clutch Aligner Set. For passenger cars and light trucks. Contains all units illustrated and described except A-37-6 Truck Sleeve and A-37-17 Pilot. Complete in KR-170A metal box. Box has red enamel finish—size 12" x 4⅝" x 1⅜".

CAR AND TRUCK SET

A-37E-8 Clutch Aligner Set. Complete set for all passenger cars and trucks. Contains all units illustrated and described. Complete in the red enameled, KR-170A metal box.

A	A-37SA	Body Assembly
B	A-37-2	Standard Sleeve
C	A-37-22	Sleeve Adaptor
D	A-37-6	Truck Sleeve
E	A-37-26	Centralizer Locator
F	AW-3	Hex Head Wrench
G	A-37-19	.388" Pilot Assembly
H	A-37-25	5/16" Pilot
I	A-37-11	.585" Pilot
J	A-37-9	.620" Pilot
K	A-37-12	.663" Pilot
L	A-37-18	.713" Pilot
M	A-37-10	.745" Pilot
N	A-37-13	.781" Pilot
O	A-37-14	.979" Pilot
P	A-37-17	1.175" Pilot

CYLINDER RIDGE REAMERS

FOR CARS AND LIGHT TRUCKS

2⅜" to 4⅛" Capacity

(A) **104-RR Ridge Reamer.** A quick-setting, true-cutting cylinder ridge remover that employs the principle of an expansion reamer without its shortcomings. Assures a perfectly smooth wall surface with no danger of undercutting and works equally well on out-of-round cylinders. With a range of 2⅜" to 4⅛" it will handle practically all cars and trucks on the road today.

Simple to operate . . . just install the correct "Size-Plate" and slip into the cylinder. One "Size-Plate" is permanent part of the tool and two additional sizes are included as illustrated. The reamer is held in the cylinder by 2 ears on the "Size-Plate" and 1 on the cutter blade. This 3 point suspension establishes a fixed depth for the cutter blade in the cylinder . . . the reamer cannot fall through. The special cutter blade is self-aligning and extends down into the cylinder, contacting the wall below the taper. Because of this large wall contact and because the actual reaming is done only by a special carboloy insert on the top of the blade, it is impossible to undercut a cylinder wall with this tool. Adjusting knob regulates the spring tension which holds the cutter against the wall and allows it to follow out of round cylinders. Tool has a milled hexagon extension and can be turned with any 7/16" wrench.

★**104-RR-1** Extra Cutter Blade . For the above ridge reamer
2-SP Size Plate..Fits cylinders with diameters 2 9/16" to 3 9/16"
3-SP Size Plate.....Fits cylinders with diameters 3½" to 4⅛"

FOR CARS AND TRUCKS

2 9/16" to 6" Capacity With the Extra Set of Cutter Blades

(B) **WR-25 Ridge Reamer.** An expanding cutter type reamer with a capacity of 2 9/16" to 4½". Three expanding cutters act as self-centering agents and are so shaped that only the top portion of the blade does the actual cutting while the bottom section acts as a guide to prevent chattering and undercutting.

The reamer is supported in the cylinder by means of the clamp which is slipped over a stud and bolted to the cylinder block. Blades are adjusted by means of the square screw on top of the tool and the reamer is turned by means of the large hex on top of the housing. Two sizes of cutter blades are furnished with the set to handle cylinders up to 4½", however an extra set of blades is available to increase the capacity to 6".

★**WR-25-3** Set of three blades 3½"-4½"
★**WR-25-4** Set of three blades 2 9/16"-3½"
★**WR-25-5** Set of three blades 4½"-6"

FOR LARGE TRUCKS OR DIESELS

4½" to 8" Capacity With the Extra Set of Cutter Blades

(C) **WR-20 Ridge Reamer.** A large capacity reamer for truck cylinders up to 6 9/16" in diameter. The 3 blades have cutting edges on the top part only . . . bottom part acts as a pilot to prevent undercutting. Strips on top of the blades ride on top of the block and prevent the tool from falling through. Amount of cut is regulated by turning the ½" square on the center screw. Once the reamer is set, the knurled operating knob slips over the screw and acts as a convenient grip to hold the tool while it is being turned with a 1½" wrench. For ridges deeper than 1/16" a set of filler strips is included to allow the reamer to slide down into the cylinder. An additional set of blades is available to increase the capacity to 8".

Additional Blades and Parts

WR-20-1 .....Body
★**WR-20-4** Set of 3 blades and strips, 4½"-6 9/16" capacity.
★**WR-20-5** Set of 3 blades and strips, 6 9/16"-8" capacity.
WR-20-6 Set of filler strips and screws (State blade number the strips are for.)

SPECIAL FORD SERVICE TOOLS THAT SAVE

SPRING SPREADER FOR FORD CARS AND TRUCKS

Pat. No. 2,212,690

S-9023V V-8 Ford Spring Spreader Set. A full seven tons of smooth, friction-free power to spread the stiffest springs with ease. Any mechanic can change springs quicker with this tool—light and easy to handle, its just about the fastest and simplest tool ever developed for the job. Sturdy, alloy steel seamless tubing provides the utmost strength and safety. Parts are quickly interchanged to adapt the tool to various springs. The ball-bearing ratchet assembly takes the thrust from both ends and works freely under the greatest pressure. Convenient ratchet head lever reverses action instantly . . . the pressure screw has a low pitch thread for easy ratchet action and smooth, steady, safe power. Contains all parts listed below.

A-90-A24	Ratchet Handle Assembly	A-90-40	Tube Coupling
A-90-33	Tube Housing Assembly	S-9023V-1	16" Tube
A-90-A13	Pressure Screw	S-9023V-2	23" Tube
A-90-36	"V" Block (2 req'd)	S-9023V-3	28" Tube

VALVE MICROMETER GAUGE

MG-1 Ford Valve Micrometer Gauge. Use the Snap-on Ford Valve Micro-Gauge and you'll be assured that each individual valve fits perfectly into the block. It was designd for Models A, B, V-8 Ford, (except 60 H.P.), Mercury and Lincoln Zephyr (models 1948 and earlier). No more fumbling—no more hit or miss methods when you use this tool. You'll know the exact valve setting to a minute fraction for this gauge is graduated in .001".

The gauge is placed in the valve guide hole and rests on the tappet . . . the "V" block rests on the valve seat and is set at that point on the gauge. It is then removed, and placed inside the micrometer sleeve with the "V" block resting snugly in the sleeve . . . the micrometer is adjusted till its anvil just touches the bottom of the gauge shaft and the reading shows the amount of grinding necessary on that particular valve. Each valve can be tested to its own reading after grinding until the correct point is reached.

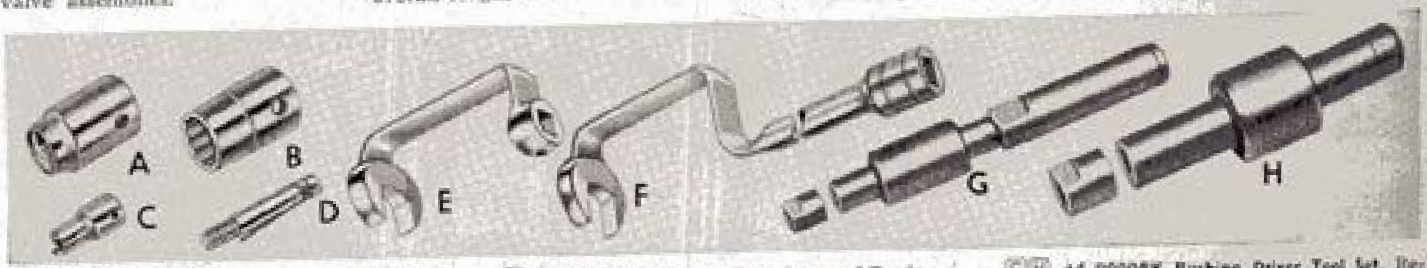
(A) **★GA-31 Ford Valve Tool.** You really speed up the tearing down or rebuilding of Ford valve assemblies by the use of this handy little tool. Simple to use . . . just hook it around the valve stem and then force it against the valve guide. The leverage afforded compresses the valve spring easily and allows you to slip out half of the valve guide. With the removal of the tool the other half of the guide is then easily released. Reverse the above procedure, and you can replace the units in no time at all. The GA-31 will work on all Fords and Mercurys with split valve assemblies.

(B) **S-9088B Ford Valve Lifter.** A lifter especially designed for valve service work on Ford cars. Different size ends work on both V8-85 and V8-60 series cars giving you two tools for the price of one. Heads are individually drop forged from finest quality steel, then properly hardened and tempered to give maximum service under all operating conditions. Extra strength is incorporated in the heads by the side ribs which reinforce but do not interfere in any way with the use of the tool. Openings are ½" and 7/16", stock diameter ¾", overall length 24".

(C) **S-8667 Valve Keeper Pusher.** Here's a tool every mechanic working on Ford motors will want to have in his tool kit. It makes easy work of pulling the most stubborn keepers on Ford cars without pulling the keeper holes. The nose of this tool is especially designed and flattened to give tremendous leverage while the hook is set at a special angle to keep the strain off the keeper hole. Just hook it on —push—and out comes the keeper . . . it's as easy as all that. For best results keep pusher at right angles to the valve. Hook is replaceable if damaged.
S-8667-2 Replacement Hook.

(D) **★SV-9011 Valve Grinding Bushing.** A split bushing with spring clip retainer. Fits over valve stem and into valve bushing opening for valve grinding operation. Pin prevents it from falling through. Can also be used for checking tappet clearance.

(E) **S-9049 Valve Guide Driver.** The wide curved section fits around the valve head while the notch at the base centers the tool on the guide sections. The offset provides a direct action blow for easy guide removal. For all Fords from 1932 thru 1948 except the 60 H.P. model. Forged construction, 6" long.



Connecting Rod Sockets. The two sockets listed below have turned down noses with thin walls to handle Ford connecting rod work. Though sufficiently strong for this job they are not built for ordinary nut turning and should not be used in place of standard sockets. ½" square drive.

(A) **★S-9025D Socket.** A 9/16" single hex opening for Ford V-8. Outside diameter 29/32", nose diameter ¾", length 1 5/16".

(B) **★S-9001 Socket.** For Model A Fords. 21/32" double hex opening, outside diameter 1 3/16", nose diameter ¾", length 1¼".

(C) **★S-9047 Pronged Socket.** 1940-51 Fords make use of a partially slotted retaining nut to hold the heater, windshield wiper and light switch controls in the panel. The 7/64" x ¼" prongs on this socket fit these nuts perfectly with no danger of marring or damaging them. Socket O.D. is ¾", length 1". Handle end is broached for ¼" square drive handles.

(D) **S-9080 Oil Pan Holding Screw.** Affords a fast, easy means of holding Ford oil pans in position while the cap screws are being replaced. Two of these screws are turned into opposite sides of the crank case flange and the oil pan is then slipped over these screws. The springs will catch on the oil pan flange and hold the oil pan so that both hands can be used to replace the cap screws.

Oil Gauge Wrenches. A wrench of this type is a necessity for removing or installing the oil gauge unit in Ford blocks up to 1951 models. The 9/16" open end fits the unit perfectly, and the "U" shape takes care of clearance problems.

(E) **S-8659 Oil Gauge Wrench.** The ¼" square drive opening on the top is made to receive extension bars to provide the necessary overhead clearance. For 1951 and earlier Ford cars, F7 and F8 Ford trucks and 1932 Lincolns.

(F) **S-8659A Oil Gauge Wrench.** A one-piece unit 16¼" long, ¼" square drive. For 1951 and earlier Ford cars.

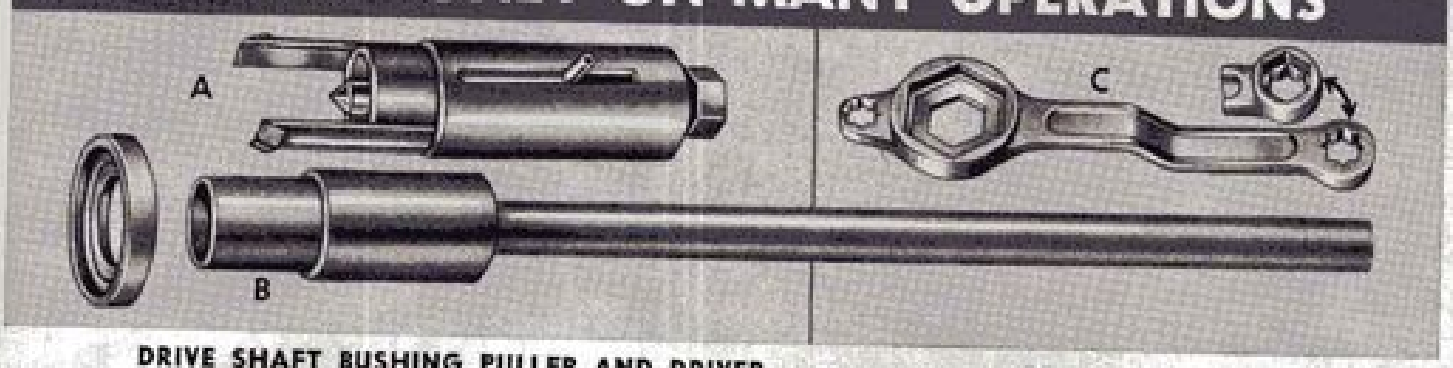
(G-H) **★S-9090BK Bushing Driver Tool Set.** Remove Ford spring shackle or perch bushings, or insert new ones with this efficient tool. Fast, safe, and easy to use, it will quickly pay for itself in time saved on these operations. To remove bushings, the threaded end of the Driving Shaft is screwed onto the bushing which is driven out by hammer blows on the Driver. To insert new bushings the Pilot Nut is screwed onto one end of the bushing and inserted into shackle. The Collar is placed over the bushing to guide and protect it during the operation. Driving Shaft is screwed onto outer end of bushing which is then driven into place with hammer blows on the Driving Shaft head. Contains all units listed below.

Individual Sets for Ford Cars or Trucks

(G) **★S-9090B Bushing Driver Tool Set.** For Ford passenger cars and light trucks.

(H) **★S-9090K Bushing Driver Tool Set.** For Ford trucks.

TIME AND MONEY ON MANY OPERATIONS



DRIVE SHAFT BUSHING PULLER AND DRIVER

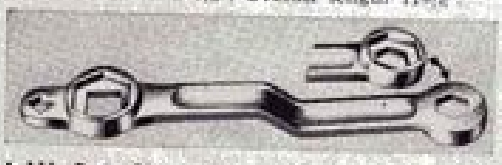
Drive Shaft Bushing Tools. A worn drive shaft bushing which allows excessive vibration is often the cause of grease seal failure resulting in customer "come-backs" and complaints. With these tools you can remove and replace this bushing in just a few minutes time, thereby assuring your customer of trouble-free service. No more chiseling and hammering that can cause damage to other parts, and no danger of chips getting inside to cause trouble later. These two tools will pay for themselves on the first job in labor saving alone. Work on 1949-52 Fords and Mercurys with either standard or overdrive transmissions.

(A) **S-8672 Drive Shaft Bushing Puller.** The two jaws are inserted through the grease retainer and between the bushing and the shaft. They expand behind the bushing and are held in position by a sliding tube to give a slip-proof grip. Turning the pressure screw removes both the bushing and the grease retainer in one operation.

(B) **S-8673 Drive Shaft Bushing Driver.** Replaces the bushing and grease seal at the same time. Slide the grease seal adaptor, then the grease seal and the new bushing on the driver, and insert over the drive shaft. A few hammer blows forces the bushing and seal into position. No guessing or measuring is necessary as the flange on the tool assures the proper positioning of the bushing.

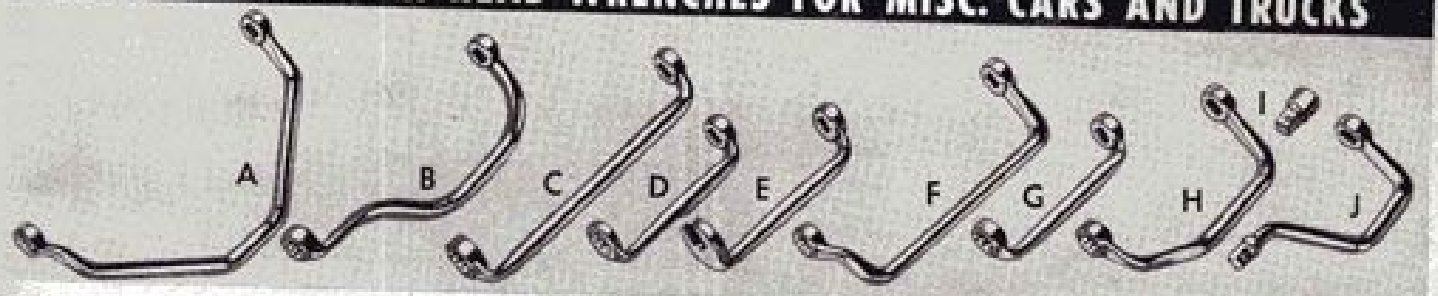
DRAIN PLUG WRENCHES

(C) **A-120 Drain Plug Wrench.** A high quality drain plug wrench with 5 different sizes of openings that will handle a great many different cars as well as Ford. This wrench is forged from alloy steel, and all openings are accurately broached to fit the drain plugs correctly. Full heat treating for greater strength plus smooth plating give you a wrench for years of service. Tool contains three hexagon openings, 2", 1⅛", 1 1/16" and two square openings, ⅝" and 9/16". Overall length 11⅛".



A-121 Drain Plug Wrench. The same high quality as the wrench described above but with different size openings. Forged construction, accurate broaching, full heat treating, and smooth plating combine to give you a tool that's easy and safe to work with. Contains three hexagon openings, 1⅛", 1⅛", ⅞", and two square openings, ⅝" and ½". Overall length 10 11/16".

SPECIAL CYLINDER HEAD WRENCHES FOR MISC. CARS AND TRUCKS



(A) **S-8666 Cylinder Head Wrench.** Needed for cylinder head work on 1949 and 1950 Fords, Lincolns and Mercurys. The special bends on this crowfoot boxocket get the nut that is under the oil filter bracket as well as those that are partially hidden by heater and other accessories. 9/16" stock, opening is 15/16" double hexagon. ½" square drive, overall length 16½". Can be used with the TQ-150 Torqometer shown on page 15.

(B) Not available.

(C) **M-4276 Cylinder Head Wrench.** Services head bolts on Mack truck gasoline and diesel engines and also Massey Harris gasoline engine model 44-55. The ¾" double hexagon Boxocket end is 1 1/16" in diameter and ½" deep to provide sufficient strength for the job yet give the necessary clearance. Can be used with any ½" square drive wrench handle. Overall length of 8⅝" puts the handle end out in the open above the rocker arms.

International Truck Cylinder Head Wrenches. While both of the wrenches listed below have ¾" openings the two different styles are both needed in order to service all the head bolts on overhead valve engines in International trucks. They sneak under the rocker arms, yet leave the square drive out in the open for easy turning with any ½" square drive handle or Torqometer.

(D) **M-4380 Cylinder Head Wrench.** ¾" double hex opening. Wrench wall is grooved to clear the washer on the rocker arm. Reaches countersunk head bolts, 5 1/16" long.

(E) **M-4379 Cylinder Head Wrench.** ¾" open end wrench, overall length 5 9/16".

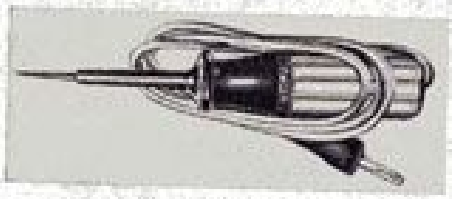
(F) **S-8663 Pontiac-Studebaker Head Wrench.** The specially bent wrench end allows you to reach cylinder bolts on these cars for easy removal or proper tensioning. The double hex Boxocket opening is 15/16", and the overall length is 8 11/16". Can be used with any ½" square drive Torqometer shown on page 13 or other ½" square drive handles.

(G) **S-9825B Buick Cylinder Head Wrench.** This tool has a ¾" double hex Boxocket opening with an overall length of 3¼". Fits all ½" square drive handles. Because uniform tensioning of these important nuts is so necessary to a smooth running job we recommend one of the Snap-on Torqometers shown on page 13.

(H) **S-9513C Chevy Cylinder Head Wrench.** This ¾" Boxocket reaches around the rocker arms of Chevrolet cars for easy tightening and tensioning of cylinder head stud nuts and will greatly simplify and speed up this work. This sturdy wrench is made of ½" stock and has a 2½" offset for rocker arm clearance. Overall length is 6½". Fits all ½" square drive handles. We recommend that this tool be used with the TQ-150 ½" square drive Torqometer shown on page 13.

(I) **S-9526 Chevy Head Wrench Adaptor.** The hex opening of this tool slips into the box end of our S-9513C Torqometer adaptor shown above. By attaching a ¾" socket to the square drive you have a tool that services all the head bolts, including those that are countersunk on the 1950-52 Chevy 105 H.P. engines. By changing sockets this combination will provide a Torqometer adaptor that will fit the head bolts of almost any car, ¾" hex end, ½" square drive end. Both ends have a friction ball and spring.

(J) **S-9527 Chevy Torque Adaptor.** This adaptor has been designed to service all the head bolts on 1950 to 1952 Chevy 105 H.P. engines. Attach a ¾" socket and a TQ-150 Torqometer to the ½" square drive ends and you can get around all the obstructions and accessories to reach all the bolts for proper tensioning. Overall length 3 9/16".

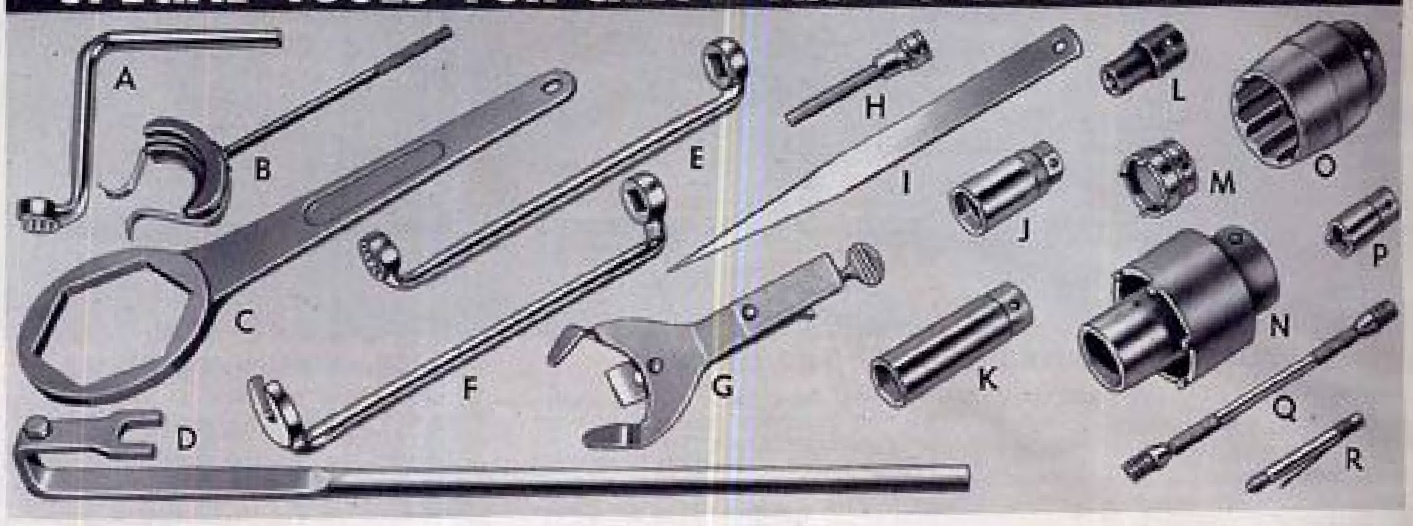


ELECTRIC TESTER

★**GA-41 Electric Tester.** Spot those troublesome breaks and shorts in a jiffy with this electric tester. Complete in itself, simple and easy to use, it requires no technical training to operate.

The tester consists of a needle-pointed prod, neon tube, plastic handle and a four-foot length of wire with a spring clip attached to the end. The clip is attached anywhere on the car and the point of the tester brought in contact with the wire, switch, etc. When a live circuit is closed, a bulb in the handle of the tester lights up. This makes it easy to trace down the cause of the trouble, whether it be shorts or breaks in single wires or electrical circuits, switches, etc.

SPECIAL TOOLS FOR CHEVY AND OTHER G.M. CARS



Ⓐ **S-9516 Chevy Dash Control Wrench.** A bent handle flare nut wrench for Chevy choke and throttle control nuts and Ford heater control nuts. Flare nut opening allows the tool to slip over wires and cables to reach the nuts and the 3½" offset provides clearance over surrounding instruments. 9/16" double hex opening, diameter of stock 7/16". Handle length 3⅝".

Ⓑ **S-9529 Chevrolet Camshaft Holder.** This tool has been designed to hold the camshaft so as not to displace the freeze plug when replacing the camshaft gear. As this freeze plug is located directly behind the camshaft, a hard blow can loosen it or knock it out completely. In use the tool is inserted over the camshaft between the last lobe and the bearing with the flat side of the tool toward the lobe. If a connecting rod is in the way, turn the engine with a GA-44 Flywheel Turner until the S-9529 can be snapped into position. The gear can now be driven onto the shaft and the shock will be transferred by the tool against the crankcase with no danger of dislodging the freeze plug.

Ⓒ **S-9531 Steering Gear Lock Nut Wrench.** Prior to 1951, Chevrolets had a notched hex lock nut on the steering gear, and the hammer and punch method would work satisfactorily. The 1951 and later models eliminated this notching, and this Boxocket type wrench is now needed to do the job properly. Single hex opening is 2¼", width of head 4", head thickness ¾", overall length 12".

Ⓓ **S-9532 Chevrolet Flywheel Turning Tool.** A necessary tool for rotating the flywheel on 1950-52 Power-Glide Chevrolets to reach the drain plug for lubrication or for engine repair and service. The "U" shaped end slips over one of the flywheel nuts while the peg fits into one of the holes on the flywheel to give a gripping point. Offset handle gives clearance over the flywheel housing cover. Length of 18" provides sufficient leverage for easy operation or accurate positioning.

Ⓔ **S-8164A Oldsmobile-Pontiac Starter Wrench.** Here's a Crowfoot Boxocket wrench that really sneaks in behind the starter housing and motor block to reach those hidden nuts you can't even get your fingers on. Developed expressly for Oldsmobile and Pontiac it is also useful on many other cars as well. The ⅝" wrench opening is double hex broached while the drive end has been broached to receive any ½" square drive handle. Overall length is 10".

Ⓕ **S-9524 Chevrolet Starter Wrench.** For 1949 to 1952 Chevrolets. The top mounting bolt on these starters cannot be reached with ordinary wrenches. ⅝" open end is 5/16" thick. Overall length 9", stock diameter 7/16". Fits ½" square drive handles.

Ⓖ **S-9580 Universal Joint Tool.** For Chevy and Pontiac universal joint work. Holds the inner section of the universal joint securely in position while the joint is being assembled. Once the tool is in place both hands are left free to do the actual assembly work. It is a very simple matter to slip the engaging jaws under the universal section and screw tightly the middle sliding jaw. Quick—efficient—easy to use.

Ⓗ **★FA-6L Chevy Drain Plug Wrench.** This tool has a long bit to reach the drain plug on Chevy Power-Glide transmissions and is easier to use than the standard hex bead wrench. The 3/16" bit is 2" long, overall length 3 1/16". Fits ⅜" square drive handles.
★FA-6L2 Extra Bit for above.

Ⓘ **S-9533 Chevrolet Snap-Ring Spreader Tool.** For rear bearing removal on Chevrolets with standard transmissions. The point of the tool is inserted into the lock ring opening so that the bevel edges line up with the ends of the ring. As the tool is pushed in, it expands the lock ring into the housing so that the bearing can be tapped out. Tool is ¾" wide and 3/16" thick. Length of taper 3", overall length 9".

Ⓙ **S-9704 Cadillac Spark Plug Socket.** The No. 1 plug on 1949-52 Cadillacs is located directly under the generator making it impossible to remove with extra deep sockets. The S-9704 has a ¾" hex milled on top so it can be turned with a open-end wrench or Boxocket after it has been installed on the spark plug. A ⅜" square is also broached in the drive end. 13/16" shallow broached single hex opening. Overall length 2 7/16".

Ⓚ **★S-9803D Spark Plug Socket.** Especially designed for spark plug work on Buick and Nash cars with 14 mm. plugs. The 13/16" single hexagon opening fits these plugs perfectly and the extra socket depth protects the top from damage. Can be used with any ½" square drive handle or with a Torqometer (shown on page 15). 3½" long.

Ⓛ **★S-9702 Connecting Rod Socket.** Specially designed for servicing connecting rod bolts on Cadillac cars. These bolts are drawn up extremely tight and the heavy wall construction of this socket gives the extra strength needed for the job. 7/16" single hex opening fits ½" square drive handles. Gun metal finish.

Ⓜ **★S-9530 Switch Lock Nut Socket.** The decorative lock nut on the 1951 Chevy ignition switch requires the use of this special four pronged socket for servicing operations. The prongs are chamfered on the inside for a perfect fit on the nut preventing marring or scratching the finish. Outside diameter 1 11/32", length 1". ⅜" square drive.

Ⓝ **Chevy Truck Axle Bearing Sockets.** The tubular sleeve fits the axle housing and aligns the tool so that the prongs fit exactly into the slotted adjusting nut and the lock nut. The S-9511 is for 1½ ton and over trucks and will fit both old and new style nuts. 2½" O.D. length 3 21/32". The S-9521A works on ¾ and 1 ton models and has a 2 7/16" O.D. and is 3¼" long. Fit ½" square drive handles.

S-9511 Bearing Adjusting Socket

S-9521A Bearing Adjusting Socket

Ⓞ **★S-9517 Pinion Flange Nut Socket.** Has a 1⅝" opening and a very thin tapered nose to fit the pinion flange nut on some models where there is very little clearance around the companion flange. For Chevrolet, Dodge, GMC and International trucks which use the Eaton 2-speed axle as well as some other special axles that require this size socket. ⅝" square drive.

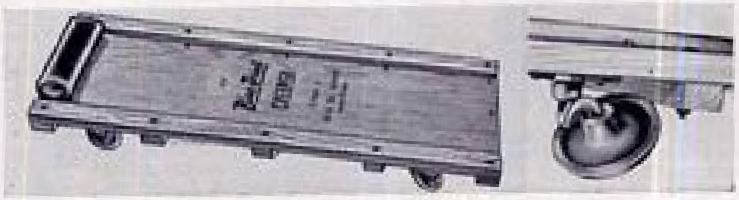
Ⓟ **★S-9518 Chevy-Pontiac Starter Button Socket.** Designed to remove the chrome plated retaining collar that holds the starter button in place on the dash. The socket is hollow to fit over the button allowing the two prongs to slip into the retaining ring slots. Add this socket to your set and eliminate the danger of marring or scratching these parts. ⅝" long, ¼" square drive.

Ⓠ **GA-55 Chevrolet Head Locater.** Remove head bolts and screw the dowels into bolt holes by means of the center shaft. Shaft unscrews itself when dowel is seated. Tapered tops of dowels extending above cylinder block serve as hinges in removing, and as locaters when returning the head. The dowels also hold the gasket in position line up properly with the bolt holes. Shaft is 5" long. ⅝" diameter.

GA-55-1 ..... Shaft only
GA-55-2 ..... Chevrolet Dowel
GA-55-3 ..... Extra Buick Dowel

Ⓡ **S-9595 Pan Holding Screws.** For replacing Chevy oil pans. Use two screws in bolt holes on opposite sides of crank case flange; slip oil pan over until springs catch and hold the pan in place. Ends are slotted for use with a screwdriver if necessary.

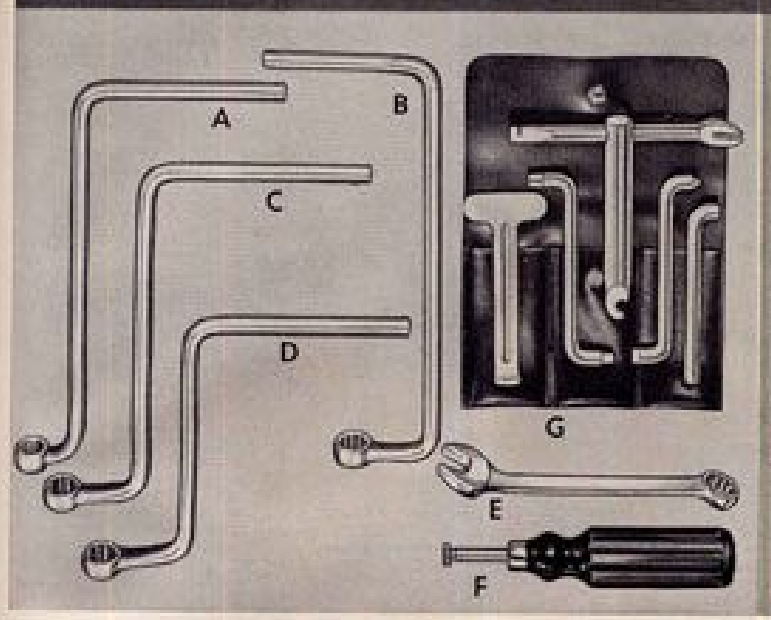
BLUE-POINT CREEPER WITH ANGLE-AXLE CASTERS

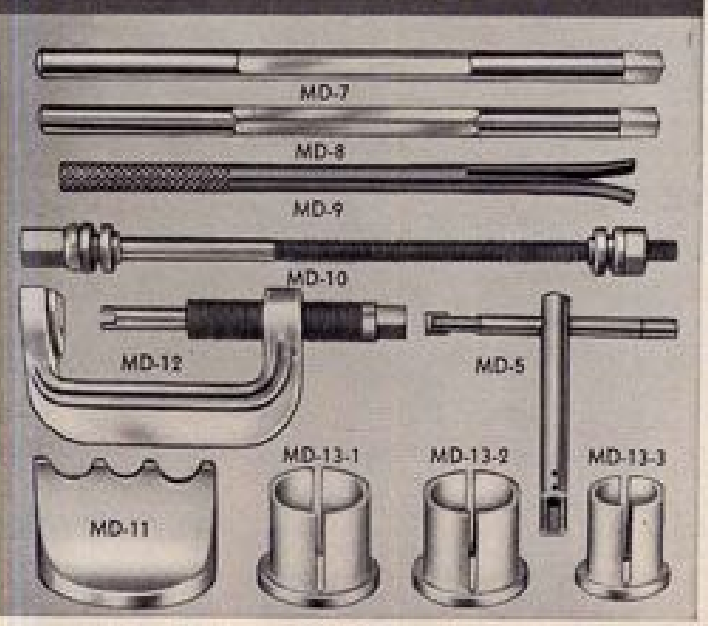


GA-87 Creeper. You'll roll over electric wires and rough spots in the floor without effort on this new creeper. The 3¼" angle axle casters with their low angle of attack glide over objects that would cause regular casters to stick and bind. And, just as important, these new casters give you a creeper that is very low, a necessary requirement for work under new cars. The whole unit is sturdily constructed for long, hard use. It consists of a hardwood frame bolted together with a solid plywood center panel. The padded headrest is covered with red leatherette that is easy to keep clean. We can supply sets of angle axle casters as replacements for above creeper or to replace wheels on other creepers.

GA-87-1 Set of 4 Casters, for replacement use on above creeper
GA-88 Set of 4 Casters, for conversion use on other creepers

SPECIAL TOOLS FOR DISTRIBUTOR SERVICE





MISCELLANEOUS DISTRIBUTOR TOOLS

[A] **S-9467A Distributor Wrench.** A 7/16" single hex boxocket for loosening or removing the distributor on Chrysler, Dodge, DeSoto and Plymouth cars . . . reaches around distributor to do a fast job. Distance from wrench to cross handle is 7¼".

[B] **S-8564 Lincoln Distributor Wrench.** For distributor adjusting work on the 1952-53 model Lincolns. As the distributor is next to the firewall, a reverse bend of the handle is necessary for operation. Wrench opening is ½" double hexagon, clearance over obstructions 8½", stock diameter ⅜", handle length 6".

[C] **S-8173 Distributor Boxocket.** Makes easy work of distributor adjusting on Olds, Buick, Cadillac, Packard and many other cars. The long handle affords 6 11/16" clearance over obstructions putting your hands out in the open where there is less danger of bumping the distributor during the final tightening. This tool will also prove useful on many other hard to reach jobs. ½" double hex Boxocket opening.

[D] **S-8558A Distributor Boxocket.** A handy tool for distributor flange nuts on Fords, Packards and Cadillacs as well as fuel pumps, water pumps and other accessories on a variety of cars. Will prove an extremely useful tool for work where clearance over obstructions is needed. The ½" opening is double hex, stock diameter ¾". Height over obstructions is 4 11/16".

[E] **S-9096A Ford Distributor Wrench.** A combination wrench with both heads offset to provide knuckle clearance. Both openings ½". Overall length 5¾".

[F] **★ACD-12 Distributor Cleaning Brush.** A twist of the handle and you are assured of a clean, corrosion-free terminal connection on the distributor and coil. The circle of wire on the tip is made a little larger than the connection opening to give sufficient pressure for the job. Overall length 5¼", handle length 4". Wire diameter .012".

[G] **★TK-560 Tune-O-Kit.** These handy units provide you with the correct tool to handle aligning and adjustment of the voltage regulators and distributors on most cars. Set contains all the tools listed below in small plastic kit bag 4" x 5" . . . just the right size to slip into your pocket.

★TK-419A Ignition Point Aligning Tool. For aligning points on Delco and Autolite distributors.

★TK-426 Voltage Regulator Tool. Adjusts most types of voltage regulators.

★TK-439 Offset Screw Driver. For ignition point clamp screw on Ford V-8.

★TK-440 Ford Voltage Regulator Tool. For voltage regulator adjustments.

★TK-444 Ford Distributor Tool. Fits the eccentric post for adjusting the vacuum control spring tension in 1949-50 Ford distributors.

SPECIAL HOLLEY DISTRIBUTOR SET

2010-MD Holley Set. Contains 10 tools listed below.

Bearing Burnishing Tools. For sizing new oilite bearings after installation . . . ensure a smooth, precision fit to Holley specifications. Will not injure the inner oil seal. A ¾" square end permits turning with a tap wrench or a slow speed drill press.

MD-7 Bearing Burnishing Tool. ½" diameter.

MD-8 Bearing Burnishing Tool. 15/32" diameter.

MD-9 Oilite Bearing Remover. Drives out all sizes of oilite bearings used on Holley distributors. Handle end is inserted in bearing hole and pulled through until forked end snaps in back of bearing. Blows on anvil end drive out the bearing.

MD-10 Oilite Bearing Press. Installs upper and lower bearings at the same time. Hex end is clamped in vise and the new bearings placed over the adaptors which center them. Turning the nut forces the bearings into proper position. Two sizes of adaptors are included for 15/32" and ½" bearings. Ball thrust bearing provides easy turning.

MD-12 Drive Gear Puller. Yoke flange clamps in vise for easier operation. Adaptor in yoke is removable to permit pulling of all sizes of drive gears. The pressure screw adaptor is slotted so as not to burr the driving end of the distributor shaft. Can be turned with a ½" wrench.

MD-5 Point Aligning and Adjusting Tool. Adjusts the stationary contact point, breaker gap, and the breaker plate tension studs.

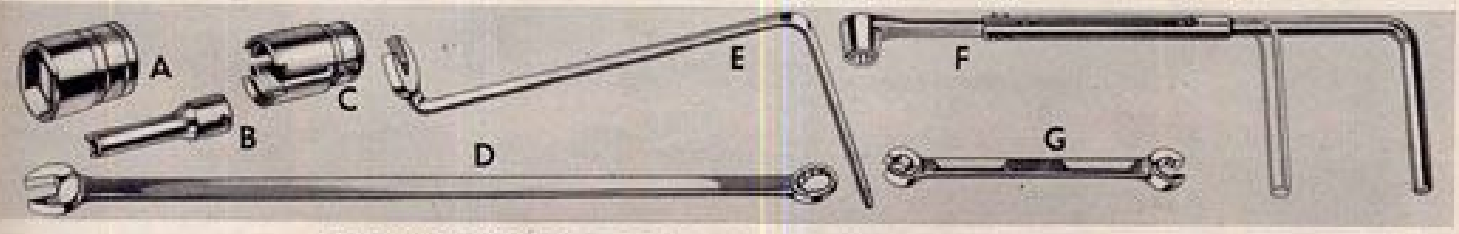
MD-11 Rivet Removing and Reheading Block. Provides a solid base for removing or replacing the drive gear rivets. Two of the slots have holes so that the pins can be driven through. The other slot has a small indentation for forming a head when replacing the rivet.

Vise Clamp Sleeves. For clamping Holley distributors in a vise when making adjustments. Prevents marring or breaking of the mounting flange. Flat sides of sleeves clamp in vise, and shoulder prevents them from dropping through the jaws.

MD-13-1 Vise Clamp Sleeve. 1½" inside diameter.

MD-13-2 Vise Clamp Sleeve. 1 15/32" inside diameter.

MD-13-3 Vise Clamp Sleeve. 1 1/16" inside diameter.



SPECIAL SERVICE TOOLS FOR CHRYSLER BUILT CARS

[A] **S-9473 Magnetic Socket.** Eliminates the possibility of dropping the fluid drive filler plug on Chrysler line cars during servicing operations. The powerful Alnico magnet imbedded in the tool holds the plug securely for easy removal or replacement. ¾" single hex opening, 1¾" long, ½" square drive.

[B] **S-9459B Wing Nut Socket.** This is a dual purpose socket for Chrysler work. Narrow slot ⅛" wide by 29/64" deep for valve cover wing nuts. The wing nut stays in the socket when unscrewed . . . or it can be placed in the socket for reinstalling. Drain cock slot is ⅜" wide by 5/16" deep. ⅜" square drive. Overall length 1⅝".

[B] **★S-9458 Dash Nut Socket.** A pronged socket to fit panel switch and control nuts on Chrysler line cars. Outside diameter of nose 5/16", length 1⅝". ¼" square drive.

[D] **★S-9465A Fluid Drive Wrench.** Combination Boxocket and open-end services the flange stud nuts that hold the fluid drive assembly to the crankshaft flange. Both openings are ⅝", overall length 17".

[E] **S-9471 Carburetor Wrench.** A specially bent 7/16" open end wrench to reach carburetor base bolts on Chrysler line cars with air conditioning heaters. Height of offset 8 5/16". Head thickness 9/32".

[F] **S-9470 Fan Blade Wrench.** This socket type wrench with sliding shaft permits removing the shrouded fan blades on Chrysler cars. With the wrench in position on the bolts the fan is rotated while the handle is held against the shroud. The sliding action of the shaft allows the handle to remain stationary for easier operation. A protruding pin in the slot prevents the handle from turning. ½" double hexagon wrench opening, length with handle in closed position 9".

[G] **RXV-12155 Flare Nut Wrench.** This wrench has Boxocket openings of ⅝" and 15/32" to fit hydraulic and oil line fittings of Chrysler cars. Overall length 6⅝".

MISCELLANEOUS SPECIAL TOOLS

A **★GA-22 Standard Grease Fitting Tool.** Used to remove old fittings, rethread the holes and replace new fittings . . . fits standard size Zerk and Alemite grease fittings.

B **★GA-22A Midget Grease Fitting Tool.** Services so called "Midget" grease fittings.

C **★GA-46 Gasket Clips.** Set of twelve spring steel clips. Hold gasket firmly in place while assembly is being made. Protects the gasket—cuts time 50 per cent. Quickly removed when bolts are positioned.

D **★GA-105 Scriber.** Scribes sharp, clean lines on the hardest surface including glass. The secret of its performance is the tip which is made of tungsten-carbide, one of the hardest metals known.

E **S-5A Scratch Awl.** This is a high quality, alloy steel blade, machined and ground from ¼" diameter to a perfect taper, and hardened the full length. Handle is the same high grade Octo-Grip plastic handle used on our best screwdrivers. Metal ferrule on the blade prevents pressure from pushing blade through the handle. Overall length 8½".

F **HCP-48 Hose Clamp Pliers.** Two position slip-joint model for all popular sizes of Corbin hose clamps.
The specially milled jaws hold the hose clamp securely in line with or at right angles to the handles. Overall length 7 11/16".

G **GA-62 Water Pump Locator.** You can easily install the water pump to block without waiting until the gasket is firmly in place. ¾"-16 thread dowel ends are screwed into the block by means of the center shaft. The gasket and pump are positioned over the dowels and then securely bolted. The dowels can then be removed.
GA-62-1 Shaft only.
GA-62-2 Dowel End only.

H **Wire Stripper.** Not available.

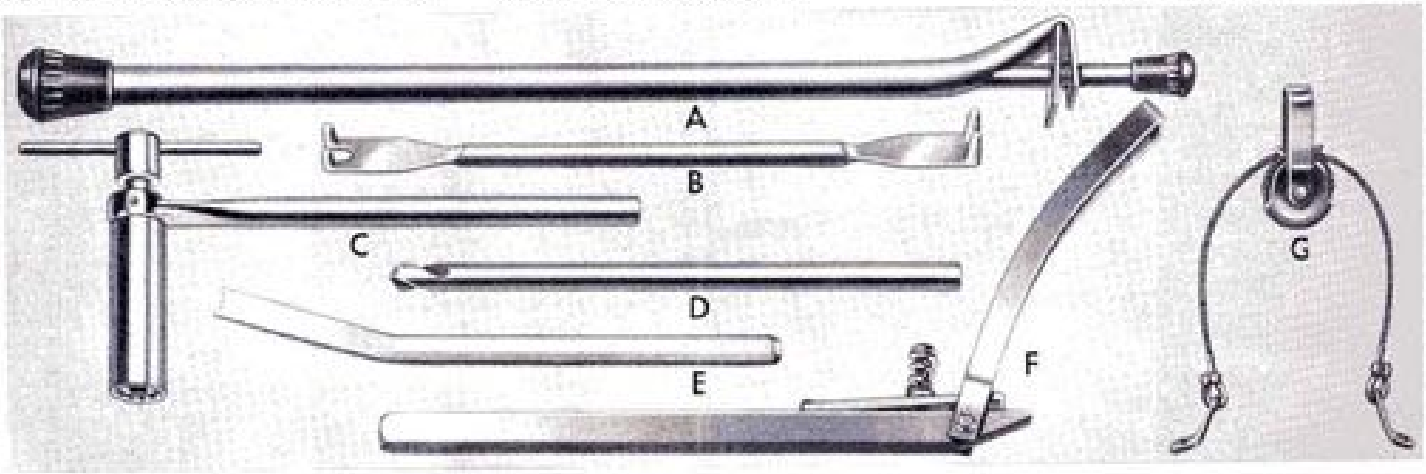
J **S-9103 Drain Plug Socket.** This magnetic socket is used to turn and hold the drain plug on Hudson fluid clutches. A powerful alnico magnet holds plug securely. 11/16" hex opening. 15/16" O.D., ½" square drive.

★CF-101 Piston Pin Extractor Set. (Not illustrated). Permits replacing connecting rods on Chevy, Buick, Willys, and Studebaker engines without removing the cylinder head. The CF-102 wrench holds the piston pin for removal or replacement and also acts as a centering gauge for Chevys. The CF-103 rod clamp expanding jack fits 1937 to present models of Buicks as well as many Willys and Studebaker models. The CF-104 rod clamp expanding jack fits 1940 to present model Chevys. Set includes 3 tools listed below.
★CF-102 Piston Pin Wrench
★CF-103 Buick Rod Clamp Jack
★CF-104 Chevy Rod Clamp Jack

I **GA-79 Battery Post and Terminal Brush.** A compact, handy cleaning tool for servicing batteries. The terminal brush is tapered and fits either negative or positive ends. The other end of the tool slips over either of the battery posts. Just a few twists will remove all corrosion and oxidation, assuring perfect contact. A cap fits over the terminal end to protect the hand from the wire bristles. Overall length closed 3⅝".

L **★GA-107 Remote Control Switch.** Attaching this unit to the starter solenoid allows the starter to be used for rotating the engine for all sorts of tests and checks from any position around or under a car. It can also be used for any application which calls for exact location of some rotating part of the engine. The GA-105 is complete as illustrated with rubber covered alligator clips and five feet of cable. Caution: This switch does not replace the regular, heavy current carrying parts of the starter circuit and should be used only on vehicles equipped with a starter solenoid.

M **A-125 Bosch Diesel Injector Nozzle Puller.** Pulls all Bosch injector nozzles. The two sections fit around the studs on the mounting flange and are held in position by the spring clip retainer. The 2 pressure screws contact the tops of the studs, and, as the screws are turned, they pull out the nozzle.



A **GA-37 Hood Jack.** No cogs, catches, pumping or screwing is necessary to extend or lock this unit . . . just press the release lever and slip out to any desired length. Sturdy ¾" aluminum frame with a solid push rod. Absolutely safe, it fits all cars. Rubber shoes on both ends prevent slipping. 28" overall length, extends to 52".

B **A-175 Differential Adjusting Wrench.** For the critical adjustments necessary on Buicks and Chevys the A-175 is a must. Two sizes of prongs on the ends of the tool fit into the holes of the nut for easy, accurate adjusting. Short prong length 7/16", long prong length ¾", overall length 12".

C **S-8168B Hydra-Matic Adjusting Tool.** This tool will loosen lock nut, adjust the band and retighten. Has a deep ⅝" special socket with hex drive on handle end. Socket is turned by handle to loosen and tighten lock nut on Hydra-Matic bands. Inside the deep socket is a 5/16" single square socket which is turned by handle on top.

D **★CSD-32 Spotlight Drill.** A special length drill for mounting spotlights in the thick doors of late model cars. This ½" diameter drill has a 1⅛" flute length and is 10" long.

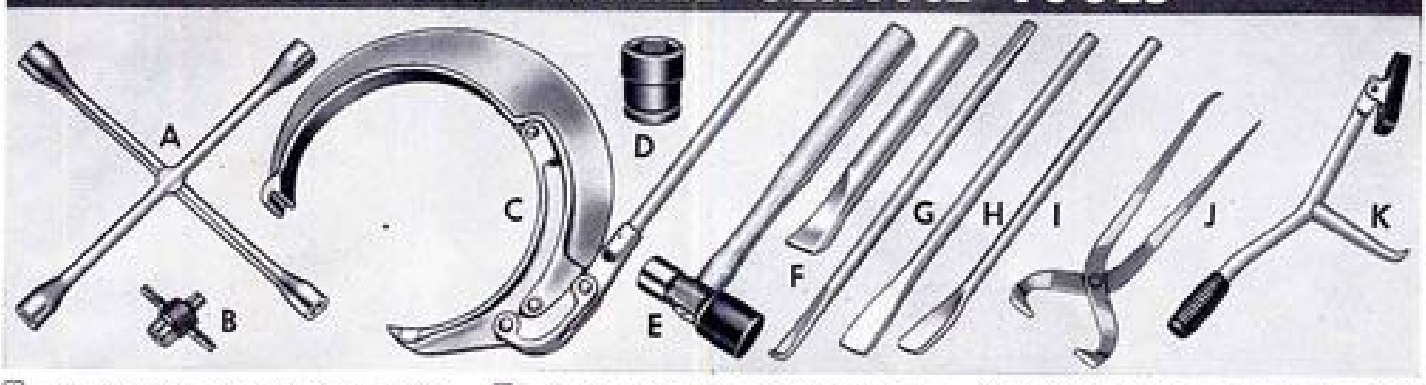
E **★GA-32 Muffler Tool.** For cutting muffler sleeves, exhaust pipes and material of this type. It is similar to the GA-1 Bushing Cutter described on page 39, but has the head set at an angle to afford knuckle clearance. The curved bit will not bite or gouge into adjoining material and curls the cutting chip away from the operator. Overall length 10", ½" octagon stock.

F **GA-44 Flywheel Turner.** Saves crawling out from under to turn the motor by hand or starter . . . helps you place the crank shaft to the exact desired position to the fraction of a turn. Spring tension holds the tool fast to the flywheel leaving both hands free for work. A real time saver on clutch work, bearing work, ring installations and other general jobs.

G **Engine SAF-T-LIF.** Bolts to the cylinder studs on any engine and provides angle adjustment for raising and lowering engines in close quarters. Extra safe—it is tested for a 2 ton lift . . . and with the Hook Adaptor fits lifts with hooks larger or smaller than standard. Without the adaptor it fits 1 ton and 1½ ton standard hooks only. The Saf-T-Saddle permits cable to be moved to the best lifting position but will not slip out of position under load. The flexible, preformed, steel aircraft cable has attached fittings drilled to fit ½" diameter studs.
Two sizes of Saf-T-Lifs are available. Standard models are 30" long, 36" long models are available for V-8 engines.

GA-76A	Saf-T-Lif with Hook Adaptor
GA-76	Saf-T-Lif without Hook Adaptor
GA-77A	Long Saf-T-Lif with Hook Adaptor
GA-77	Long Saf-T-Lif without Hook Adaptor
GA-76A-1	Hook Adaptor

TIRE AND WHEEL SERVICE TOOLS



(A) **Rim Wrenches.** Powerful 4-arm speed tools for wheel removing. Socket ends are broached extra deep in order to operate over protruding hub bolts.

★**402 Rim Wrench.** 15/16", 3/4", 5/8" hex openings. Arms 10" long.

★**404B Truck Rim Wrench.** Openings: 1" hex, 1 1/2" hex, 1 5/16" hex with 5/8" recessed hex, 1 5/16" hex with recessed 15/16" square.

(B) ★**GA-143 Tire Valve Tool.** Here's a handy little tool for tire servicing. One end is for removing or inserting the valve core, one end for tapping out the valve core threads, one end for chasing the outside threads and one end which acts as an air nozzle. Threaded on the valve stem it holds the stem in position and, an air hose can be used to partially inflate the tube. 1 3/8" long.

(C) **T-254B Tire Remover.** Removes tires speedily, easily, on all Chrysler line cars with safety rim wheels. The compound leverage forces rusted-on tires away from the rim with safety. With this tool you can easily remove the tire from the wheel without taking the wheel off the car.

(D) **Budd Wheel Sockets.** Heavy wall construction for impact wrench use. All have a groove for locking ring and pin.

BW-482A Budd Wheel Socket. 1 1/2" single hex opening, 3/4" square drive.

BW-483B Budd Wheel Socket. 1 1/2" single hex opening, 1" square drive.

BW-563 Budd Wheel Socket. 1 3/8" single hex opening, 1" square drive.

BW-626 Budd Wheel Socket. 1 5/16" single square opening, 3/4" square drive.

BW-726A Budd Wheel Socket. 1 5/16" single square opening, 1" square drive.

BW-730 Budd Wheel Socket. 1 5/16" single square opening, 1" square drive.

(E) **BH-38A Combination Tire Hammer.** Drop-forged steel head has a 1 1/2" face. Durable hard-rubber tip is 3" wide. Tips are easily replaced. A 15" hickory handle provides leverage for heavy blows. Weight 2 lbs. 4 ozs.

BH-38-2. Replacement Rubber Tip.

★**24-H.** Replacement Hickory Handle.

(F) **TR-101 Truck Tire Tool.** An excellent persuader for breaking loose the tire bead from the rim on truck wheels. The tool is forged from 1 1/4" round stock. The blade end radii eliminates tube damage. 12" long.

(G) ★**TR-100 Rim Tool.** Here's a tool that really does the job on split rims and rim lock rings used on older cars and practically all trucks. 19 1/4" long, with ends 9/16" and 5/8" wide. One end is bent, the other straight.

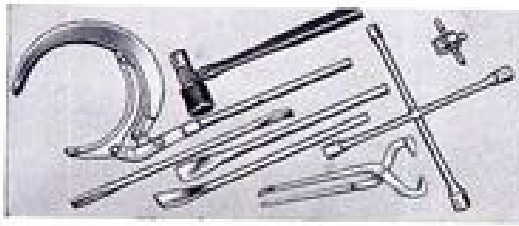
Tire Removing Tools. Designed to remove tires from drop center rims. The well-rounded, wide blades give plenty of purchase area without danger of injuring the tube. Blades are 1 3/8" wide, overall length 18".

(H) **TR-103 Straight Tire Tool.**

(I) **TR-102 Curved Tire Tool.**

(J) **GCP-10 Grease and Hub Cap Tool.** One of the handles has a bent chisel edge that fits behind the hub cap to pry it loose. The tapered jaws of the tool fit around and behind the crimped ridge of the dust cap to provide a firm wedging grip that easily removes the tightest cap. Overall length 20 1/2".

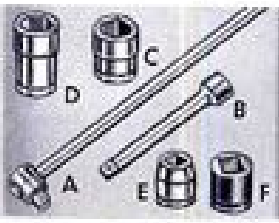
(K) **GA-78 Hub Cap Tool.** There's no danger of scratching or otherwise marring hub caps—or ruining screw driver tips—if you have this tool. It's fast and simple to use . . . place the rubber flexible head on the hub cap, slip the hook under one edge and pull.



8-PIECE TIRE TOOL SET

WT-80 Set. Contains the 8 essential tire tools listed below and described in detail at top of page. Equips your shop or service station with the necessary tools for passenger car and light truck tire service.

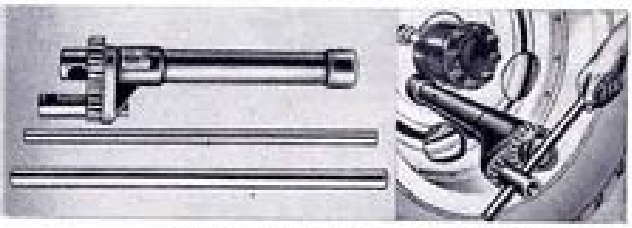
★**402.** Rim Wrench.
★**TR-100.** Rim Tool.
TR-102. Tire Tool.
TR-103. Tire Tool.
BH-38A. Tire Hammer.
T-254B. Tire Remover.
GCP-10. Hub Cap Tool.
GA-143. Valve Tool.



BUDD WHEEL SET

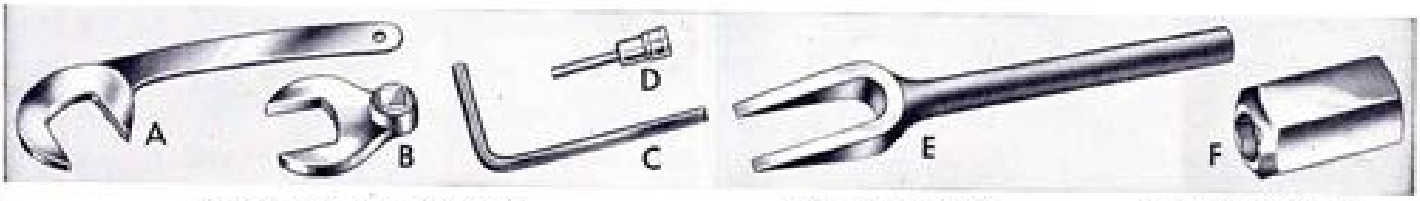
BW-60 Set. Assembled expressly for removing Budd wheels. Set consists of following parts:

(A) **L-58 Sliding Bar**
(B) **L-63 Extension**
(C) **BW-483B** 1 1/2" hexagon socket
(D) **BW-563** 1 3/8" hexagon socket
(E) **BW-726A** 1 5/16" square socket
(F) **BW-730** 1 5/16" square socket



POWERENCH FOR BUDD WHEELS

GA-83 Powerench. A powerful geared wrench for mounting and removing Budd wheels on the road or in the shop. It's easy for one man to use, for once mounted on the work it supports itself leaving both hands free for the actual turning operation. An added safety feature against half-done jobs is provided in the unit as the outer hex nut cannot be tightened if the inner nut is still loose. Fits 1 5/16" square and 1 1/2" hex nuts. Includes all units illustrated above.



CASTER-CAMBER WRENCHES

(A) **Open End Type.** Thin heads and curved handles eliminate clearance problems for easy adjustments on many cars. All 8" long.

S-8562 Wrench. 1 7/16" size
S-8271 Wrench. 1 3/4" size.
S-9464 Wrench. 1 5/16" size.
S-9462A Wrench. 1 13/32" size.
S-9460A Wrench. 1 7/32" size.
S-9463 Wrench. 1 1/2" size.
S-9461A Wrench. 1 5/16" size.

(C) **S-9566 Caster-Camber Adjustment Wrench.** For the hex head set screw adjustment on most GM cars. Wrench size is 1/4" with a length of 2 3/4". Handle length is 4 1/2". Hardened for long service.

(B) **Crowfoot type.** Four different sizes fit many different cars. Heads only 1/4" thick, 1/2" square drive.

S-8661A Wrench. 1 1/4" size.
S-8272 Wrench. 1 1/4" size.
S-8662A Wrench. 1 5/16" size.
S-9156 Wrench. 1 13/32" size.

(D) ★**FA-8L Caster-Camber Adjustment Wrench.** A socket type wrench with a long bit for Chevy and older GM cars. Overall length 2 1/2". Wrench size 1/4". 3/8" sq. drive. Bit protrudes 1 5/16".

FA-8L1 Socket only.

★**FA-8L2** Bit only. 1 3/8" long.

FP-22-3 Set screw for above.

SEPARATOR TOOLS

(E) **Tie Rod Separators.** These sturdy split wedge type tools are designed for separating tie-rods, ball joints, pitman arms, and knuckles on cars and trucks. Long handles put anvil end out in the open for hammer blows.

★**A-200 Separator.** 1 3/4" jaw opening, 3/4" thickness, 18" long.

★**A-201 Separator.** 1" jaw opening, 1 5/16" thickness, 12" long.

★**A-202 Separator.** 1 3/4" jaw opening, 1" thickness, 12" long.

★**S-8658 Separator.** 13/32" opening, 3/4" thick, 18" long. For Fords.

HUB BOLT SETTERS

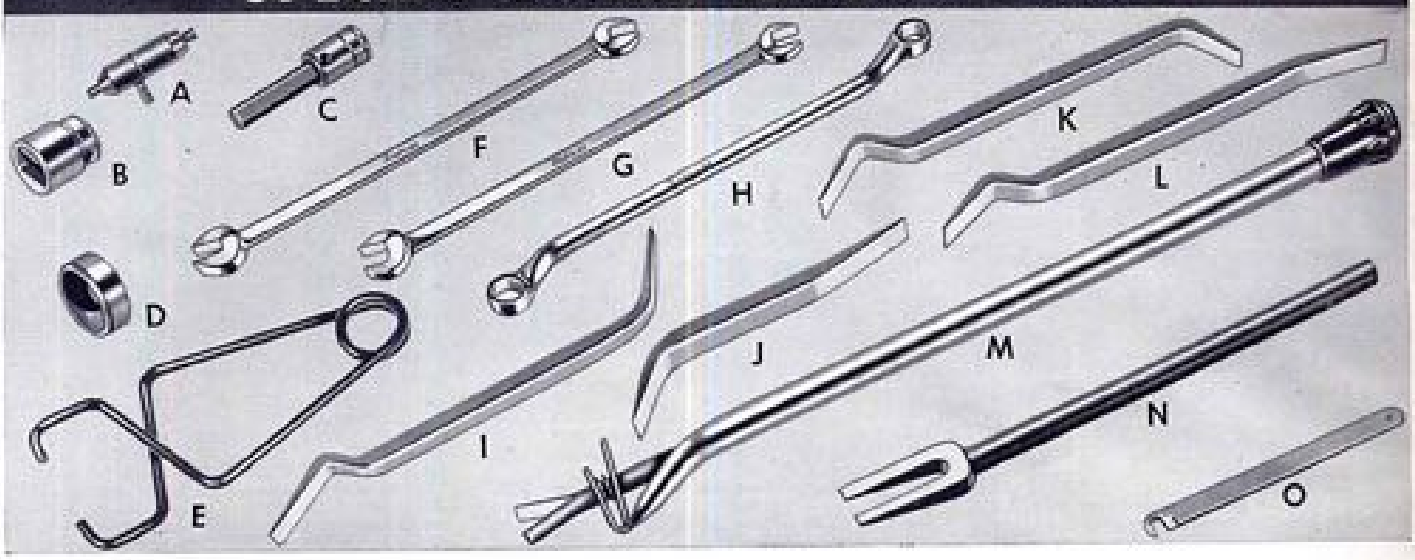
Hub Bolt Setters. Necessary tools for setting the hub bolts on many cars. The flat side is used to pull the bolt tight against the drum while the other end cuts a flange against the stud to hold it securely. Turn with a 5/8" wrench.

★**BS-16206 Setter.** 1/2"-20 left hand thread for Olds and Pontiac.

★**S-9045 Setter.** 1/2"-20 right hand thread for Ford, Oldsmobile and Pontiac.

★**S-9519 Setter.** 7/16"-20 right hand thread for Chevy.

SPECIAL BRAKE SERVICE TOOLS



(A) **★BB-40 Brake Bleeder Set.** Contains four Brake Bleeders. Makes brake bleeding a one man operation. Fill master cylinder first and then screw a bleeder in each wheel cylinder, open valve and depress pedal once. Built in valves prevent air from being sucked back into the cylinder. Two thread sizes fit most cars.

(B) **BOS-50 Brake Socket Set.** Contains all five sockets listed below to handle brake anchor adjusting work on most sizes in use today on cars and trucks.

Stock No.	Overall Length	Opening Small	Opening Large	Drive End
B-1406	1¾"	11/16"	1½"	⅝"
B-1407	1¾"	9/16"	1 1/32"	⅝"
B-1408	1¾"	7/16"	⅞"	⅝"
B-1409	1¾"	5/16"	11/16"	⅝"
B-1410	1¾"	7/16"	⅝"	½"

(C) **★FA-12L Brake Adjusting Tool.** Designed to meet the requirements of 1949-52 Ford truck brake adjustment work. The ⅝" hexagon bit extends 1 9/16" from the socket to provide sufficient length for convenient operation. Bit is individually heat treated to provide exceptional strength and toughness and can be easily replaced. Overall length 2½". ¼" square drive.
★FA-12-3 Extra Bit.....2" overall length.

(D) **S-9472 Brake Piston Inserter.** Affords an easy way of installing the wheel cylinder pistons in 1948 thru 1952 Chrysler line cars and eliminates the danger of injuring the rubber and causing subsequent leakage. Bevel edge fits into the chamfer of the cylinder for easy centering. Inside diameter 1.329".

(E) **BL-41 Brake Clamp Set.** Consists of 4 spring wire clamps 6½" long. Easy to apply with no chance of leaving the clamp on the brake cylinder when reassembling. Close to 1 3/16".

(F) **B-1351A Bendix Brake Wrench.** Designed for eccentric cam on Bendix Internal Brakes and gives the two most needed sizes of openings, 2½" long, ¼" head thickness. 5/16" and ⅜" openings.

(G) **S-8652A Ford Brake Eccentric Wrench.** A special wrench to fit the brake eccentric adjusting screw on 1939 thru 1948 Ford passenger car and truck hydraulic brakes. Just right for fast easy work. Overall length of tool is 3½". Small heads are breached with 9/16" and ⅝" wrench openings.

(H) **B-1456 Brake Bleeder Boxocket.** A single hex offset Boxocket with ⅜" and 7/16" openings for bleeding hydraulic brake systems found on GM and most other passenger cars. The single hex openings and 9" length combine to make this job easier and faster for the mechanic.

Brake Adjusting Tools. Will service Bendix and other brakes on most cars, but the different blade bends give each tool an advantage on certain car models. For all cars using star nut adjusting except Chevrolet.

(I) **B-34048 Brake Adj. Tool.** 7¾" long.

(K) **S-8353A Brake Adj. Tool.** 8 1/16" long.

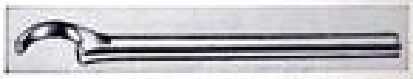
(J) **S-9523 Chevy Brake Adjusting Tool.** A short, star nut turning tool that is necessary for brake adjusting work on Chevy trucks with overload springs. Different angles at each end take care of the clearance problems brought about by the additional springs. Will also prove ideal for other cars and trucks. Blades are 11/32" wide. Overall length of tool is 5⅝".

(K) **S-9153B Pontiac Brake Adjusting Tool.** Specially designed to adjust brakes on Pontiac cars. It is made to work around or through all interfering parts such as frame fittings, etc. ½" wide blades are just the right thickness to do an accurate, fast, and easy job and are both bent in the same direction to provide a flat surface for the hand during the tightening operation. Length 7⅝".

(M) **CA-36 Brake Pedal Jack.** A lightweight telescoping jack that adjusts to any position from 16" to 26". Frame is of ⅝" aluminum tubing with a ⅜" diameter push rod. Lever action grips tighter as more pressure is applied. Has rubber shoe on stationary end, fork for brake pedal on adjustable end.

(N) **B-1454 Clevis Pin Puller.** Stuck or rusty clevis pins are no problem with this tool. The long, thin jaws slip under the head of clevis pins and a few taps with a hammer will force the pin out. Handle is long to let you get at pins that would be impossible to reach with a hammer alone. Can be used on most clevis pins on cars and on some trucks that use a 7/16" pin. Tool has an opening of 3/16", overall width of prongs is ¾", overall length 19". Gun metal finish.

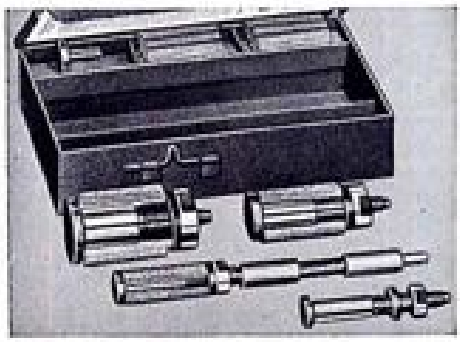
(O) **S-9475 Chrysler Hand Brake Spring Tool.** Necessary for disassembly of the transmission hand brake on Chrysler cars. The hook end is tapered to slip over the control cable between the coils of the spring. The tool can then be used to relieve the spring tension so that the ball on the cable can be removed from the operating lever slot making disassembly of the brake possible. ½" wide. 5" overall length.



S-9474 Chrysler Hand Brake Adjusting Tool. Fits through the opening in the housing to reach the brake adjusting screw nut of Chrysler line cars equipped with a transmission hand brake. The special shaped head fits around the nut, while the teeth fits into the spline openings for a firm grip. Speeds up brake adjustments on these cars. Overall length 4 5/16".

HYDRAULIC BRAKE CYLINDER HONE SETS

Simple, sturdy construction makes this hone easy and inexpensive to operate yet assures long satisfactory service with perfect results. Can be used for all passenger cars and trucks including the new Chrysler line cars. Seven sizes of bodies plus three sizes of blades combine to give a capacity of 1 1/16" to 2⅞". Abrasives, blades, and bodies are all interchangeable, thus eliminating the need of a large assortment of abrasives and blades. The flexible driving shaft provided is adaptable for use on ¼" to ½" capacity drills and threads onto all sizes of bodies. The abrasive cloth is a special type for this work and is mounted on a metal back for fast, easy changing as well as long service. Illustration shows the 925 set with a range of ⅝" to 1⅞" hone diameter.



CONTENTS OF SETS

Stock No.	Description	Set 925	Set 876-S	Set 876	Set 877	Set 878	Set 879	Set 880
876-SBD	1 1/16"-⅝" Hone Body	.....	1	.....	.....	.....	.....	.....
876B-D	⅝"-7/16"-1" Hone Body	1	.....	1	.....	.....	.....	.....
876B-S	7/16"-11/16"-1 5/16" Hone Body	1	.....	1	.....	.....	.....	.....
877B	1⅛"-1⅝" Hone Body and Special 1" cap screw	1	.....	.....	1	.....	.....	.....
878B	1⅝"-1½" Hone Body	1	.....	.....	.....	1	.....	.....
879B	1½"-2¼" Hone Body	.....	.....	.....	.....	.....	1	.....
880B	2¼"-2½" Hone Body	.....	.....	.....	.....	.....	.....	1
896-1	Small Blade	3	3	3	3	3	3	3
897-1	Medium Blade	3	.....	3	3	3	3	3
898-1	Large Blade	3	.....	3	3	3	3	3
926	Flexible Driving Shaft	1	.....	.....	.....	.....	.....	.....
	Coarse Abrasives	15	3	9	9	9	15	15
	Fine Abrasives	9	3	3	3	3	3	3
	Special Metal Box	1	.....	.....	.....	.....	.....	.....
	Cardboard Box	.....	1	1	1	1	1	1

★**HH-C** One dozen coarse abrasives. ★**HH-F** One dozen fine abrasives.

BRAKE SERVICE SET

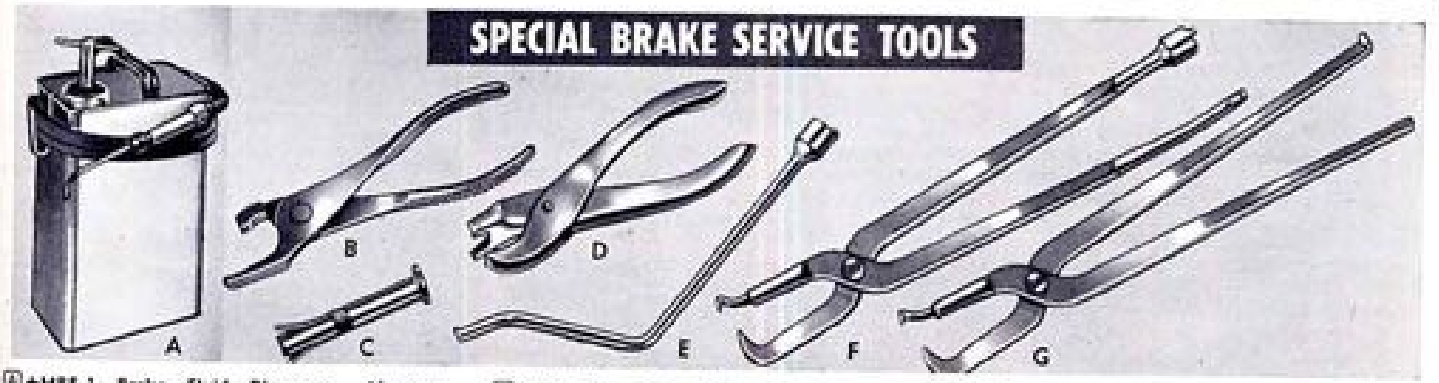
CONTAINS THE NECESSARY TOOLS FOR MOST BRAKE SERVICE WORK

2100-BT-8 Brake Service Set. Here in one set are all the necessary tools to equip your shop to handle brake service work on cars and trucks. Modern safety programs insist on regular inspections to show mechanical weaknesses—especially on braking ability—the inevitable result of which will be many more brake service jobs. With this in mind, we offer the selection of tools listed below as the ones most needed to help you do better and faster work for you will have the "right" tool for every job. The KR-56 Tool Chest (described in full on page 6) is included with this set.

2100-BT Set. Above set of tools without the chest.

Key	Stock No.	Description	Page
1	221-F	Fitset Set	33
2	414-HD	Heavy Duty Set	36
3	HDS-50	Oval Brake Socket Set	88
4	BL-41	Brake Cylinder Clamp Set	88
5	402	Rim Wrench	87
6	CG-14	Brake Spring Compressor	89
7	FA-17L	Ford Truck Brake Wrench	88
8	A-2	Adaptor	34
9	BB-40	Brake Bleeder Set	88
10	TDC-3	Chaser Set	77
11	AR-6A	Axle Rethreading Tool	77
12	S-4367A	Wheel Puller Set	92
13	4367-V	Ford Jaw Set	92
14	A-88	Wire Brush	73
15	S-103	Drift Punch	58
16	S-3C	Center Punch	58
17	S-13	Cape Chisel	58
18	S-600	Pin Punch	58
19	S-806	½" edge Flat Chisel	58
20	S-804	¾" edge Flat Chisel	58
21	47	Heavy Duty Pliers	54
22	87	Diagonal Cutter	55
23	9C	Gripping Pliers	54
24	GA-28	Vise-Grip Wrench	90
25	311A	Brake Pliers	89
26	131	Brake Spring Pliers	89
27	GA-72	"C" Washer Pliers	89
28	V-802	Angle Head Wrench Set	49
29	RXV-12145	Flare Nut Wrench	40
29	RXV-10185	Flare Nut Wrench	40
29	RXV-2024	Flare Nut Wrench	40
29	RXV-2032	Flare Nut Wrench	40
30	S-2428	Open End Wrench	47
31	S-2632	Open End Wrench	47
32	B-1351A	Bendix Brake Wrench	88
33	S-8652A	Ford Brake Wrench	88
34	B-1456	Brake Bleeder Wrench	88
35	GEX-34	Combination Wrench	48
36	HS-9	Hack Saw	64
37	GA-78	Hub Cap Tool	87
38	TC-28	Tubing Cutter	70
39	4	Hammer	57
40	GA-36	Pedal Jack	88
41	S-8353A	Brake Adjusting Tool	88
42	S-8573	Chevy Brake Tool	88
43	B-3404B	Brake Adjusting Tool	88
44	S-81338	Pontiac Brake Tool	88
45	RG-1	Screwdriver 8"	52
46	RG-2	Screwdriver 2"	52
47	925	Cylinder Hone Set	88
48	55-FB	Flaring Tool	70
49	CJ-66A	Universal Puller	92
50	CJ-66-30	Axle Puller Head	92
51	CJ-66-25	Grease Retainer Puller	92
52	CJ-66-15	Bearing Race Remover	92
53	S-9432	Brake Piston Inserter	88
54	S-9475	Brake Spring Tool	88
	KR-56	Tool Chest	6

SPECIAL BRAKE SERVICE TOOLS



Ⓐ **★MBF-1 Brake Fluid Dispenser.** Always delivers clean fluid to the brake cylinder because it is designed to fit into a standard one gallon can of clean brake fluid. As it stays in the can until empty there is no possibility of dirt entering at any time.

The unit has a self-contained, spring loaded piston — you simply pull up on the handle and the dispenser is "loaded" with 2 oz. of fluid under pressure. A self closing valve is actuated by the black ball — pull it back and you can deliver a few drops or a full 2 oz. of fluid. You have absolute control of the amount dispensed.

Each unit comes with five feet of oil proof hose with spring guards at both ends to prevent kinking or breaking. A hose rack is also included that attaches to the can to hold the hose off the floor as illustrated when not in use. The long bent nozzle makes it easy to reach the master cylinder regardless of its position in the car. The can is not included with the unit. Unit can also be used to dispense oil for shock absorbers, power steering, etc.

Ⓑ **311A Chevy Brake Spring Plier.** Especially designed to compress the brake shoe friction spring on Chevy brakes up to 1958 models. Serrated top jaw prevents slipping. Long handles provide great leverage. Overall length 8½".

Ⓒ **CG-14 Brake Spring Compressor.** No danger of skinning knuckles when you use this tool for removing lock caps on brake shoe springs. Simply place the prongs over the cap—push it down—give it a twist—and off it comes . . . easily . . . safely.

Ⓓ **★GA-72 "C" Washer Pliers.** With this plier you can make quick work of a tough job. It's simple to remove a stuck "C" washer, replace it on the anchor post, or crimp lock it in place—all with this one tool. No tool adjustments are necessary and it's a one hand operation. Works on all Lockheed hydraulic brake systems. Smooth, rounded handles, overall length 7⅞".

Ⓔ **BT-11 Brake Spring Tool.** An efficient tool for removing or replacing Bendix brake springs but will work equally well on any spring that is attached to a post. Socket end is for removing and hook end for replacing the springs. Fast and easy to use. 9¾" long.

Ⓕ **No. 131 Brake Spring Pliers.** A combination tool that can be used for the removal and replacement of Bendix, Lockheed and other hydraulic and mechanical brake springs. The steel hook on the jaw is replaceable if necessary. The ends of the handle are the same as the BT-11 Brake Tool above. Overall length 13½". Nickel plated finish.

Ⓖ **No. 31 Brake Spring Pliers.** Simplify removing and replacing brake springs. Inserted steel hook jaw is replaceable if necessary. End of handle is designed for use as a guide when replacing springs. Tool has nickel plated finish. Overall length 13½".

★No. 31-3 Extra Hook. Fits both brake spring pliers listed above.

VISE-GRIP WRENCHES—CUTTERS—BENDERS—CLAMPS

[A] **Standard Vise-Grip Wrenches.** Indispensable tools for all types of jobs. Double lever action locks the jaws on the work with a 1-ton pressure . . . grips all shapes and will not slip. It works in close quarters, at any angle . . . adjusts to ratchet like action. Substitutes for vise, clamp, pipe wrench or toggle press. Made of fine alloy steel, nickel plated.

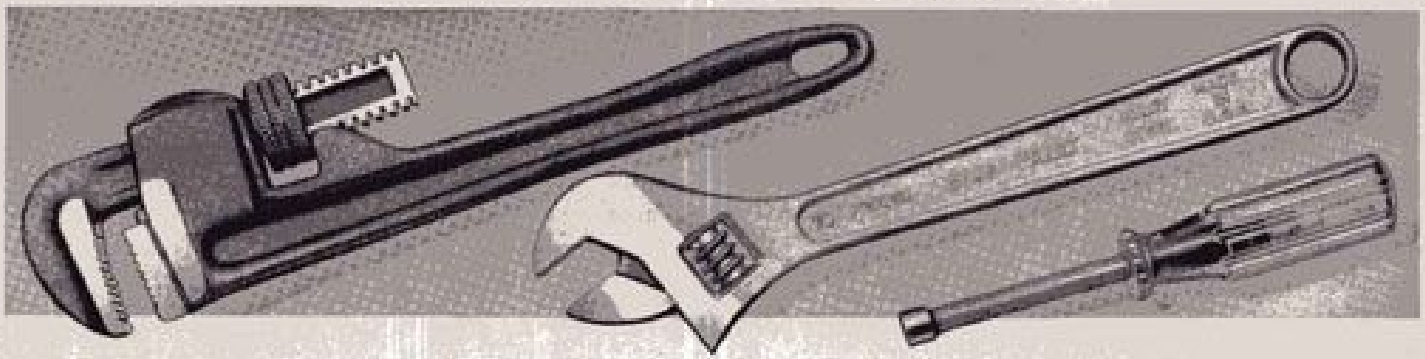
GA-27 7" Vise-Grip Wrench.
GA-28 10" Vise-Grip Wrench.

[B] **Vise-Grip with Wire Cutter.** Actually 8 tools in one for it is an adjustable end wrench, thin nose plier, pipe wrench, portable toggle press, locking wrench, clamp, vise, wire and bolt cutter. TON-GRIP permits tremendous pressure on any object up to 1⅝". Handles round work up to 1⅝".

GA-91 7" Vise-Grip with Cutter.
GA-92 10" Vise-Grip with Cutter.

[C] **★GA-90 Vise-Grip Welding Clamp.** With this tool parts are aligned almost instantly and held in position leaving both hands free. The special U-shaped jaws provide perfect visibility and working room. End screw provides quick jaw opening adjustment up to 1⅝". Ideal for fender work, soldering, riveting, etc.

[D] **GA-93 Vise-Grip Bending Tool.** Wide jaws make this Vise-Grip ideal for sheet metal work . . . provide a solid grip for twisting, bending, shaping or pulling operations. Eliminates the tiresome "hand-gripping" necessary when ordinary pliers are used . . . clamps on to the work leaving both hands free. Also useful for upholstery work as material can be stretched with no danger of raveling. 8" long, jaws 3⅛" wide, throat depth 1⅝".



PIPE WRENCHES

The housing of these wrenches is guaranteed against defects in material. Powerful I-beam handle. Grip and hold perfectly under the stiffest pull, but you can't "lock" them on a pipe. Extra hard steel jaws are easily replaceable. Machine-cut teeth milled deep to grip firmly. Eyelet in handle for hanging. Forged steel housing and handle.

PW-904 Set. Contains four wrenches, PW-6, PW-8, PW-10 and PW-14.

PW-906 Set. Contains seven wrenches, PW-6, PW-8, PW-10, PW-14, PW-18 and PW-24.

No.	Size	Weight	Capacity
PW- 6	6"	6½ oz.	½"- ¾"
PW- 8	8"	11½ oz.	⅝"-1"
PW-10	10"	1½ lbs.	⅞"-1½"
PW-14	14"	3 lbs.	1¼"-2"
PW-18	18"	5 lbs.	1½"-2½"
PW-24	24"	8½ lbs.	1¾"-3"
PW-36*	36"	16½ lbs.	2½"-4½"
PW-48*	48"	29 lbs.	3"-6"

*Special order only.

ADJUSTABLE WRENCHES

Extra strong . . . extra thin jaws . . . light weight — Blue-Point Adjustable wrenches give you all three. Through the use of new alloy steels of unusual tensile strength we are able to build a wrench that for working convenience and durability cannot be beaten. The thin head gets into extremely close working places.

D-903 Set. Contains three wrenches, Nos. D-76, D-78 and D-710.

D-906 Set. Contains six wrenches, Nos. D-74, D-76, D-78, D-710, D-712 and D-715.

No.	Size	Capacity	Head Thick.	Weight
D- 74	4"	½"	½"	2 oz.
D- 76	6"	¾"	13/32"	5 oz.
D- 78	8"	1 1/16"	15/32"	8 oz.
D-710	10"	1 3/16"	9/16"	13 oz.
D-712	12"	1 5/16"	¾"	1½ lbs.
D-715	15"	1 11/16"	21/32"	3 lbs.
D-718	18"	2 1/16"	13/16"	5¼ lbs.
D-724	24"	2 ½"	1 1/16"	9 lbs.

NUT DRIVERS

Blue-Point Nut Drivers are handy tools for radio, television and electrical shops and all control panel maintenance work. Their single hex openings fit like a socket wrench for a firm grip and their thin walls eliminate clearance problems.

The clear amber, plastic handles are shock-proof and the metal shank is covered in fire resistant and shockproof plastic to eliminate shorting should the shank accidentally touch a nearby terminal. Hex openings are carefully machined for accurate fit and heat treated for greater strength. The shanks are hollow for 1⅝" of their length, giving plenty of bolt clearance.

Eight sizes are available to fit nuts from 5/16" to 9/16" across flats and are available individually or in sets.

ND-60 Nut Driver Set. Contains the ND-10 through ND-18 listed below.

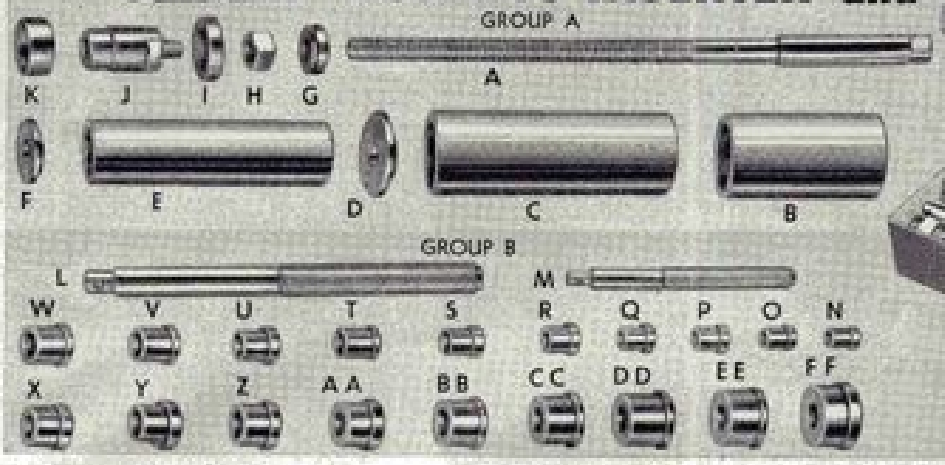
ND-80 Nut Driver Set. Contains all eight sizes listed below.

ND-6	Nut Driver	5/16"	Wrench Size
ND-8	Nut Driver	⅜"	Wrench Size
ND-10	Nut Driver	7/16"	Wrench Size
ND-11	Nut Driver	11/32"	Wrench Size
ND-12	Nut Driver	½"	Wrench Size
ND-14	Nut Driver	9/16"	Wrench Size
ND-16	Nut Driver	⅝"	Wrench Size
ND-18	Nut Driver	9/16"	Wrench Size

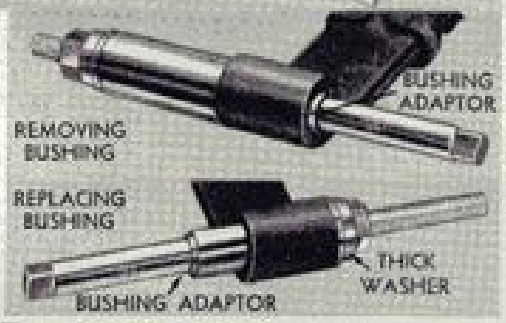
HAND BOLT CUTTER

★PBC-6A Hand Bolt Cutter. The cutting edges of this tool are set at a 45° angle to permit cutting in close quarters while keeping the hand out in the open in a comfortable position. Allows you to reach bolts or pins that are set close together without scraping the hand or knuckles. Compound leverage action of the handles makes cutting easy. Handles are dipped in plastic to provide a firm, non-slip grip. Recommended for cotter pins, annealed bolts, etc. Overall length 9". Maximum capacity ¼".

Snap-on BUSHING INSERTER and REMOVER SETS



Long favorites in shops coast to coast, Snap-on bushing remover and inserter sets provide an easier way to remove the tightest bushings and install new ones without any chance of damage. Additional sizes of adaptors have been added and the pressure screw lengthened to make the tools even more useful than before. Bronze or steel bushings can be serviced with this outfit and the wide range of adaptor sizes covers practically all shackle and steering bushings. New bushings can be inserted quickly and safely with the inserter set as shown at the right—tightening the screw forces the bushing into place easily and quickly. The sleeves permit you to force out old bushings and are indispensable on jobs where there is not sufficient room to drive them out.



The top illustration shows how the pressure screw, bushing adaptor, roller bearing and sleeve is set up to remove a bushing. The nut is turned with one wrench and the screw held with another thus drawing the bushing out of the shackle and into the sleeve. Bottom picture shows set up for inserting a new bushing . . . tightening the nut draws the bushing into the shackle. The thrust bearing prevents the nut from binding on or wearing the washer or sleeve end-piece.

INSERTER AND REMOVER SET

(All Units in Group A and Group B)

A-57K-B Bushing Remover and Inserter Set. Complete with all parts listed below and shown in groups A and B in the illustration. The five small adaptors are used only with the small driver. The set comes with the special KR-120A metal box as shown above. Case has red enamel finish.

A-57K Above set. Tools only.

DRIVER SET

(Units Shown in Group B Only)

A-57J-B Bushing Driver Set. Consists of the large and small driver and nineteen bushing adaptors shown in group B and listed below. The small driver is used with the five smallest adaptors. Provides a basic set to which you can add other units later. Complete in KR-120A Box.

A-57J Above Set. Tools only.

List of Individual Parts Making up the Above Sets

Key Letter	Stock No.	Description	Bushing Adaptors—Fit Bushings having minimum diameters as listed					
			Key Letter	Stock No.	Bushing Diameters	Key Letter	Stock No.	Bushing Diameters
A	A-57B2	Screw	N	A-57-16	11/32" x 5/16"	Y	A-57-10	9/64" x 3/64"
B	A-57-30	Large Sleeve (3 7/8" long x 1 11/16" diam.)	O	A-57-17	3/16" x 1/4"			13/16" x 11/16"
C	A-57-9A2	Large Sleeve (4 1/4" long x 1 11/16" diam.)	P	A-57-18	1/2" x 3/16"	Z	A-57-11	11/64" x 5/64"
D	A-57-9A1	Large Sleeve End	Q	A-57-26	1/2" x 5/8"			7/8" x 1"
E	A-57-1A2	Small Sleeve (4 1/8" long x 1 1/16" diam.)	R	A-57-25	3/16" x 11/16"	AA	A-57-12A	.927 x 1 1/16"
F	A-57-1A1	Small Sleeve End	S	A-57-8	3/16" x 1/4"	BB	A-57-22	9/64" x 1 1/64"
L	A-57-14A	Large Driver	T	A-57-19	29/64" x 49/64"			13/16" x 1 1/16"
M	A-57-15	Small Driver			3/4" x 11/16"	CC	A-57-13	1" x 1 1/8"
I	A-57-3	Thick Washer	U	A-57-7	3/4" x 3/4"	DD	A-57-20	1 5/16" x 1 5/16"
H	A-57-21	Nut	V	A-57-6	11/16" x 11/16"	EE	A-57-23A	1 3/64" x 1 13/64"
G	S-9095B10	Bearing	W	A-57-5	41/64" x 33/64"			1 1/4" x 1 1/4"
K	A-57-28	Chevy Rubber Spring Shackle Adaptor			3/4" x 5/8"	FF	A-57-29	1 13/64" x 1 3/8"
J	A-57-27	Chevy Truck Spring Shackle Adaptor	X	A-57-24	3/4" x 1"			1.253 x 1.375
	KR-120A	Special Metal Box						

INDUSTRIAL PULLERS FOR HEAVY MAINTENANCE WORK

25 Tons of Pulling Power

CG-325 Extra Heavy Duty Puller. Handles gears and pulleys up to 20" diameter and has a reach of 20". Is adaptable as a three-jaw or two-jaw puller. Yokes and jaws are heat treated malleable iron, comparable in strength to heat treated alloy forgings. The 1 3/8" diameter screw has a hexagon head and can be turned with any standard 1 1/2" wrench.

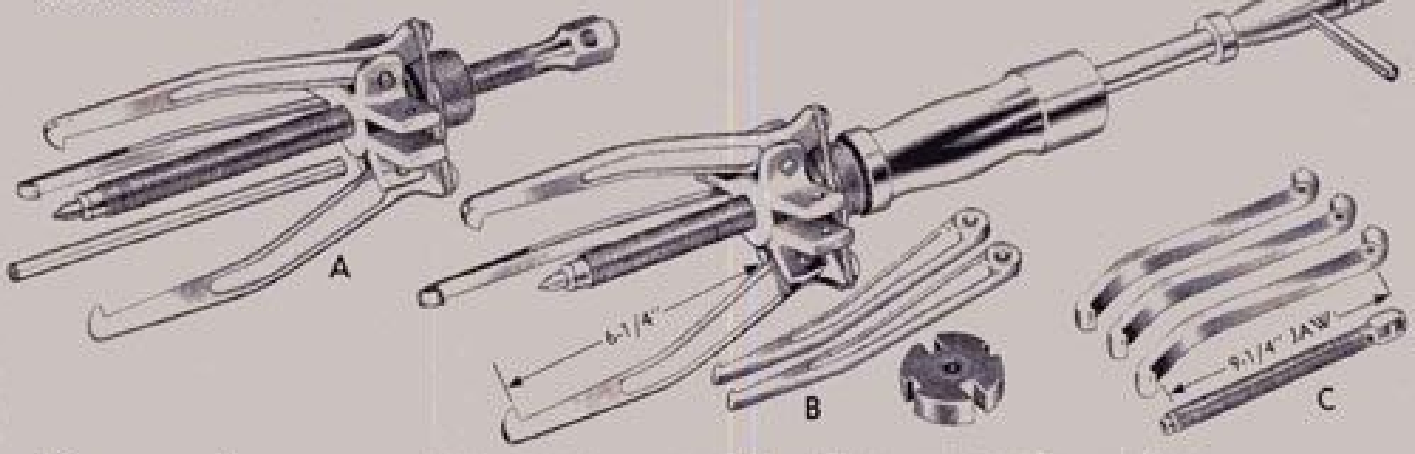
Jaws hook into any of three positions on the arms and are semi-locked there by friction balls . . . once set properly, they grip tighter with each turn of the pressure screw, and cannot slip off. This rugged tool develops a gradual build-up of power to pull the toughest jobs without the smashing sledge blows and shocks which might damage machinery parts. Here is a controlled pressure of 25 tons to pull those big, tough jobs surely and safely—more than ample power to handle any job within its jaw capacity.

CHAIN TYPE PULLER

GP-2 Chain Type Puller. 3 ton pulling capacity. Pulls bushings, pinions, pulleys, spoked wheels and small solid gears—close up or at a distance from end of shaft and over or through other pulleys. Equipped with 2 chains with 3/8" diameter links, each 2 feet long—proof-tested over 2,000 lbs. each. Equipped with both chain hooks and close-grip motor pulley hooks. Shipping wgt. 19 lbs.

UNIVERSAL PULLER AND SPECIAL HEADS

COMBINATION 2 AND 3 WAY YOKE—PRESSURE SCREW OR SLIDE HAMMER



SNAP-ON UNIVERSAL PULLERS

Pat. No. 1,893,414

Long a favorite tool for general pulling operations in garages, tractor shops, aircraft shops, etc., the Universal Puller now offers increased value and adaptability to automotive repair shops through the addition of the special pulling heads. With the different pulling combinations this tool provides, you can handle a wide variety of jobs easily, quickly and safely. The booster hammer principle has definite advantages which ordinary pullers do not possess and services many jobs that screw pullers cannot handle.

- **Booster Hammer** gives a sudden, powerful blow, guided by the shaft in the direction of the pull.
- **Guided Blow** combined with center tension is the most effective pulling force.
- **Pulling Force** is distributed equally on all sides of the pull, prevents binding of the unit being pulled.
- **Short Screw** services jobs in close places where the slide hammer cannot be used. Fits a ½" wrench.
- **2 and 3-way yoke** adapts the tool to any type of work. The 2-way throw is used for internal pulling jobs, or where a 3-way grip cannot be used.
- **Locking Feature** contributes to ease of handling the puller. A collar, locking nut and spring hold the jaws open or lock them on the job. Once locked on they cannot slip off and cause trouble.
- **Spreader Disc** has two sets of guide channels to provide a wide range of expansion while holding the jaws in line.
- **Yoke Pins** are fitted with friction balls for easy interchange of units.
- **Jaw Capacity.** Small jaws insert through ½" opening for internal pulling. Capacity of medium jaws 6¼", of large jaws 10".

(A) **CJ-63 Universal Screw Type Puller.**
(B) **CJ-66A Universal Slide Hammer Puller.**
(B)(C) **CJ-68 Universal Combination Puller.**

Parts Comprising Above Pullers

Stock No.	Description	Set CJ-63	Set CJ-66A	Set CJ-68
66-1	Slide Booster Shaft	—	1	1
66-2	Booster Hammer	—	1	1
66-3	Combination Yoke	1	1	1
66-A5	Medium Jaw	3	3	3
66-A6	Small Jaw	—	2	2
66-7-1	Locking Collar	1	1	1
66-7-2	Locking Collar Nut	1	1	1
66-8A	Spreader Disc	—	1	1
66-8A-1	Set Screw	—	1	1
66-9	Yoke Pin	3	3	3
66-10	Coupling Adaptor	1	1	1
66-11	Spring Retainer	1	1	1
66-12	½" Pressure Screw	1	—	1
66-13	Large Heavy Jaw	—	—	3
10-F	Bar Handle	1	1	1

SPECIAL PURPOSE HEADS

These special head assemblies all fit the shaft of the Universal Pullers described above and all except (M) and (P) fit the CG-270-8 shaft shown on page 94.

(D) **Slide Screw Shaft 66-1, Booster Hammer 66-2 and Bar Handle 10-F.**

(E) **CJ-66-16A Chrysler Grease Retainer Puller Head.** On Chrysler cars this special head is required. The tapered thread is inserted into the seal and the head turned under pressure until it has threaded itself into the seal. Use with pressure screw 66-12 listed above.

(F) **CJ-66-23 Oil Seal Puller.** For larger oil and grease seals used on large trucks. Use with 66-12 pressure screw listed above.

(G) **CJ-66-17 Valve Puller Head.** Use with slide shaft and hammer (above). Pulls up to 1¾" dia. valves. Will not pull Ford valve assemblies.

(H) **CJ-66-15 Bearing Race Remover Head.** Solidly and compactly built for removing tight bearing races. Has a gripping range of 1½" to 3½". Three fingers have flanges that grip behind the race even when it is flush with the housing. Four expansion plugs are included with this head.

(J) **CJ-66-20 Axle Puller Head.** Takes all sizes—is quick and easy to use. Knurled adjusting nut contracts the three jaws to grip behind the axle nut.

(K) **CJ-66-30 Chevrolet Bearing Race Remover Head.** Use with slide hammer and shaft to pull grease retainer and axle bearing in one operation on Chevy cars and trucks. Fingers are long enough to pull many other grease retainers and bearings which standard pullers won't handle.

(L) **CJ-66-18 Brake Cable Puller Head.** Frozen brake cables are no problem if you have one of these tools in your shop. Brake cable fits in the slot of the head and saves time and effort over the usual pounding methods. Takes cable up to ¼" in diameter.

(M) **CJ-66-19 Bearing Hook Head.** Pulls pilot bearings too large for the A-74 Pilot Bearing Puller as well as grease retainers, bearing races etc. on cars and trucks. The overall length is 5½", the width of the hook is ¾".

(N) **★CJ-66-22 Adaptor.** By threading this adaptor on the end of the old BR-15A slide shaft you can adapt it to fit all the CJ-66 series puller heads. Overall length 5¼". Internal thread ½" x 16, external thread ¾" x 16.

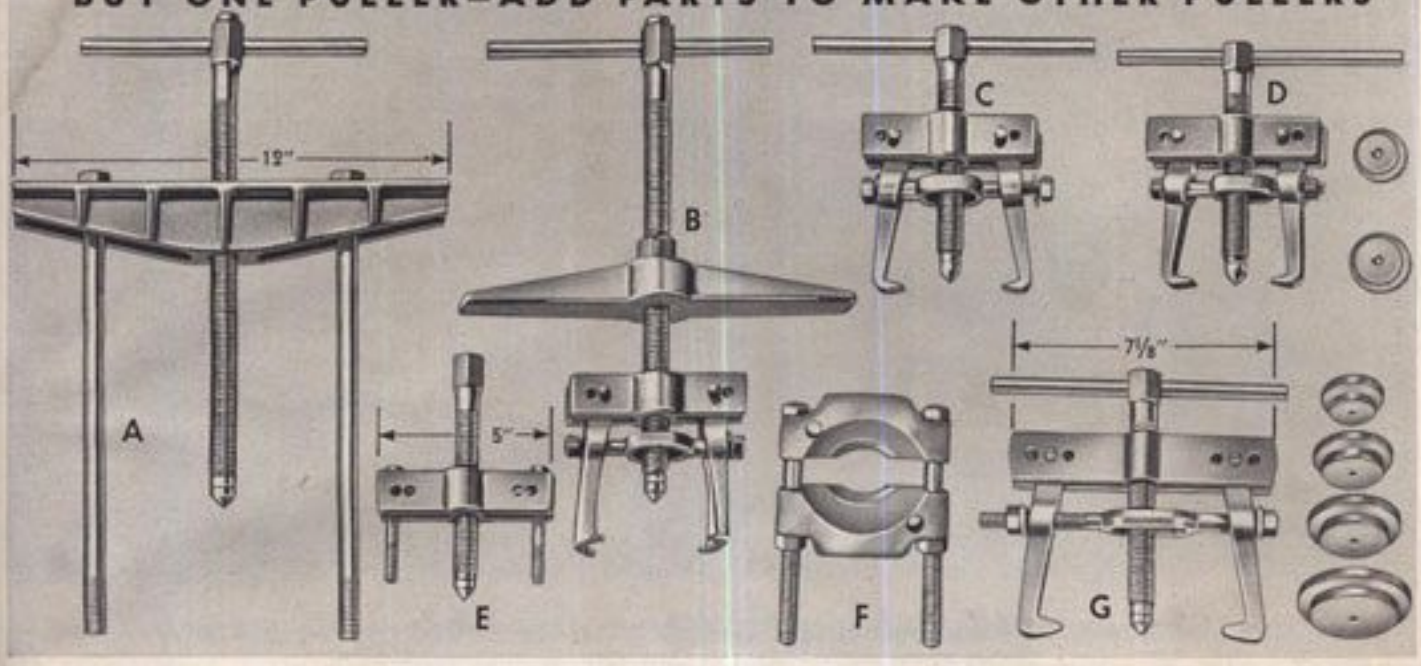
(P) **CJ-66-25 Grease Retainer Puller Head.** The thin, tapered jaws are pressed together, inserted through the grease retainer and expanded behind it.

Special Puller Heads Parts List

Stock No.	Description	(H) CJ-66-15	(J) CJ-66-20	(P) CJ-66-25	(K) CJ-66-30
66-15-1	Body	1			
66-15-2	Jaw	3			
66-15-3	Exp. Plug—Small	1		1	
66-15-4	Exp. Plug—Medium	1			
66-15-5	Exp. Plug—Large	1			
66-15-6	Exp. Plug—Largest	1			
66-15-7	Spring	1	1		
66-15-8	Jaw Pin	3	3		3
66-15-9	Key for Plugs	1			
66-20-1	Body		1		1
66-20-2	Jaw		3		3
66-20-4	Adjusting Nut		1		1
66-25-1	Body			1	
66-25-2	Jaw			2	
66-25-3	Pin			1	
66-25-4	Spring			1	

Snap-on INTERCHANGEABLE PULLER SETS

BUY ONE PULLER—ADD PARTS TO MAKE OTHER PULLERS



The pullers shown above are assembled from parts listed below—using one complete puller as a basic unit the addition of other parts will enable you to make one or more of the other pullers. All screws and yokes have the same thread size to provide interchange of long and short screws. Twenty-six parts combine to make six different complete pullers.

SLOTTED YOKE PULLER

Ⓐ **CJ-84 Slotted Yoke Puller.** Will prove useful in any shop or industrial plant. Besides pulling tapped bearings, pulleys, gears, etc., the ⅝"—18 thread studs also fit the CJ-951 and GP-952 bearing separators for maximum pulling efficiency. The yoke is slotted to within a short distance of the screw to give plenty of adjustment for various sized jobs. Screw is 13" long.

PINION GEAR PULLER

Ⓑ **CJ-86 Pinion Gear Puller.** On all GM cars on which it is possible to remove the assembly through the differential housing, the CJ-86 will do the job without dropping the drive shaft, which means a big saving in time.

The wide jaws cover 3 teeth on either side for greater gripping power without danger of damage to the gears. A ball bearing takes up the thrust for easy operation. Yoke has 2 jaw positions to adjust to best gripping position for gear size.

PITMAN ARM PULLER

Ⓒ **CJ-82A Pitman Arm Puller.** A fast action Pitman Arm Puller that can be used for a wide variety of other jobs. Clamp bolt locks the puller on the Pitman arm leaving both hands free for the actual pulling operation.

SIDE BEARING PULLER

Ⓓ **CJ-81B Side Bearing Puller.** Removes carrier side bearings without injuring them. The narrow jaws slip into the housing grooves in back of the bearing and let the jaws seat and pull from the inner race. The jaws are locked on the bearing by means of the clamp bolt. Yoke has two sets of holes for positioning of jaws. Centering adaptor and two bearing adaptors fit a very wide range of different car models.

TIMING GEAR PULLER

Ⓔ **CJ-83A Timing Gear Puller.** The short screw on this puller—only 6¼" long—makes it ideal for close quarter work. One set of studs with a thread size of ⅝"—16 is furnished to handle the majority of tapped timing gears. This size also fits the CJ-950 Bearing Separator.

BEARING SEPARATORS

Ⓕ For separating and pulling double bearings, closely fit gears, etc. Use with 2 jaw or slotted yoke pullers.

CJ-950 Separator. 2⅛" O.D. Cap. Use with CJ-83A above or CG-250A (page 94) or ⅝"-16 studs.

CJ-951 Separator. 4⅛" O.D. Cap. use with CJ-84 at left or CG-270A (page 94) or ⅝"-18 studs.

GP-952 Separator. 5⅝" O.D. Cap. Use with CG-300 (page 95) or CJ-84 at left or ⅝"-18 studs.

TRUCK SIDE BEARING PULLER

Ⓖ **CJ-85 Carrier Side Bearing Puller for Large Trucks.** Affords an easy way to pull large carrier side bearings without damaging them. Jaws are locked behind the bearing by means of the clamp bolt and pull from the inner race. Four sizes of bearing adaptors are furnished to handle all sizes of these bearings.

Parts Comprising Above Pullers

Part No.	Description	A	B	C	D	E	G
CJ-85-1	Yoke						1
CJ-86-1	Yoke		1	1	1	1	
CJ-84-1	Yoke	1					
66-12	Long Screw (13")	1	1				
CJ-83-2	Short Screw (6¼")			1	1	1	1
A-85-9	Cross Bar	1	1	1	1		1
66-15-3	Centering Adaptor	1	1	1	1	1	1
CJ-81B1	1½"—1.120" Adaptor				1		
CJ-81B2	1⅝"—1.245" Adaptor				1		
CJ-85-5	2"—1.500" Adaptor						1
CJ-85-6	2½"—1.650" Adaptor						1
CJ-85-7	2½"—1.840" Adaptor						1
CJ-85-8	3⅛"—2⅞" Adaptor						1
★CJ-81-2	Jaw			2	2		
★CJ-85-2	Jaw						2
★CJ-86-2	Jaw		2				
CJ-85-3	Clamp Bolt						1
CJ-86-4	Clamp Bolt		1	1	1		
66-9	Jaw Pin		2	2	2		2
CJ-85-4	Clamp Washer		2	2	2		2
A-86-5	Clamp Nut		2	2	2		2
CJ-83-1	Small Stud					2	
CJ-84-2	Large Stud	2					
A-86-3	Straddle Bar		1				
A-86-6	Pressure Nut		1				
A-86-7	Thrust Bearing		1				

PILOT BEARING PULLER

A-78 Pilot Bearing Puller. For clutch pilot bushings as well as small bearings in motors, generators, etc. Pulling capacity of the puller is 7/16" to 1¼". The larger jaws are designed to remove bronze or oilite bushings without crumbling them. Small jaws will pull the small clutch pilot bearings on Hudson built cars.

Tool Contains These Parts

A-78-1	"U" Shape Body
A-78-2	Jaw Holder
A-78-3	Large Jaw (2)
A-78-4	Small Jaw (2)
A-78-5	Pressure Screw
A-78-6	Jaw Pin (2)
A-78-7	Slide Bar
A-78-9	Pressure Nut

SMALL PULLER TOOL

CG-30 Small Bearing and Gear Puller. Jaws swing open for placement on the job, and the spring action on the yoke closes and holds them in position while the screw is tightened. Leverage is transferred to the jaws through the threaded crown and four lever arms—the harder the pull—the tighter the grip.

This sturdy tool has forged jaws and is a fine puller for small pulling jobs, including battery terminal work. The jaws spread to 1⅝" and accommodate gears up to ¾" thick. The maximum distance from the pressure screw to the jaw tips with the jaws open is 1½".

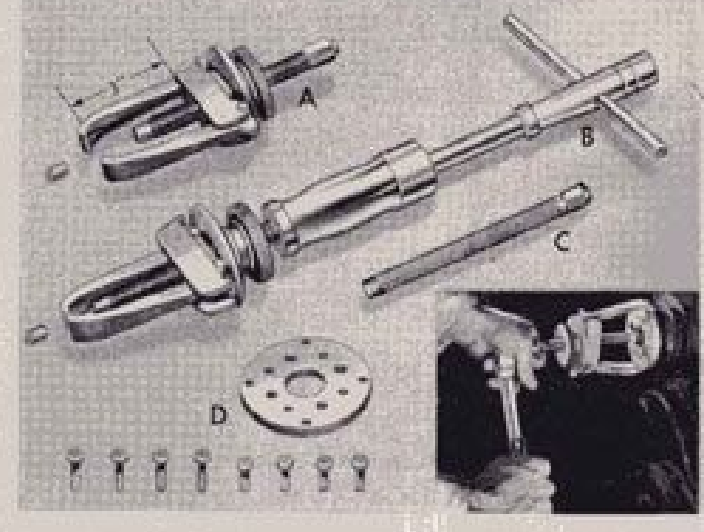
BATTERY CABLE PULLER

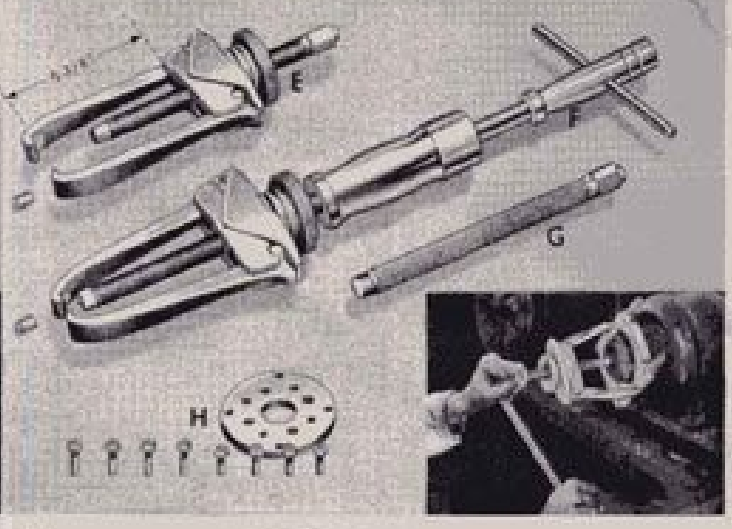
Ⓕ **GA-21 Battery Cable Puller.** A small screw-type puller with spring loaded self-locking jaws. The tool may be held between the thumb and forefinger to hold the jaws open until ready for placement under the cable terminal. When finger pressure is released, the jaws will hold themselves in place, and a few turns of the screw will lift the tightest terminal. It will work in close quarters and will pull the most stubborn cable terminals with no possibility of damage to either battery case or posts.

Apart from battery terminal work, the GA-21 is a general purpose puller for small gears, bearings, etc.

Snap-on GEAR PULLERS

Give more locking power than





Give you SAFE, UNIFORM POWER over the entire pulling range

JAWS LOCK ONTO THE JOB—NO SLIPPING OR TIPPING

Snap-on Gear Pullers are offered in four different sizes, with the two smaller models available in either standard or slide hammer type or as a combination of both. The Medium Puller is also available as either a two or three jaw model. The two larger model pullers are made in the standard pressure screw type only. The yoke and jaw construction is the same on both Standard and Slide Hammer models—built on a principle that locks the jaws onto the job with a bulldog grip—pulls small gears as easily as big ones—produces safe, uniform power over the entire pulling range. A principle that gives you slipless, tipless pulling. Yokes are equipped with 2 slots for each jaw to provide better gripping power on smaller jobs. Jaws are reversible for either "inside" or "outside" holds and jaw tips are sturdily built and especially heat treated to provide ample strength for any job within the size capacity of the tool. In addition to a wide range of gear sizes, these tools also pull pitman arms, tie-rod ends, universal joint splines, etc. A circular plate attachment (included in some of the small and medium puller sets) adapts the pullers to handle water pump and generator pulleys, tapped gears, etc. The centralized, guided shock of the booster hammer, combined with the screw tension, provides a pulling force unequalled by any other method . . . distributing the pull equally on all sides, it eliminates binding of the part on the shaft and does the job quickly and safely.

SMALL 2-JAW PULLERS—4½" JAW CAPACITY

Jaws have a 4½" maximum spread on outside holds and operate through 1½" openings for inside holds. Power capacity 7½ tons. Five different models are available. Pressure screw can be turned with any standard ⅝" wrench and has a pointed tip to center on turned shafts. All parts are made of finest steel and jaws are drop-forged for extra strength. Will pull pitman arms, tie rod ends, etc. and when used with the circular plate attachment will pull various tapped pulleys. Illustration above shows it removing a water pump pulley. A pressure screw point protector is included with each set while the circular plate attachment is included with three models only. See parts list below.

A	CG-250	Small Basic Gear Puller
A C	CG-250A	Small Standard Gear Puller
B	CG-250H	Small Basic Slide Hammer Gear Puller
B C	CG-250HA	Small Standard Slide Hammer Gear Puller
B C D	CG-250C	Small Combination Gear Puller

MEDIUM 2-JAW PULLERS—8½" JAW CAPACITY

Jaws have a 8½" maximum spread on outside holds and fit through 2½" diameter opening for inside holds. Power capacity 10 tons. Five different models are available as listed below. ⅝" hex head on pressure screw. Its capacity covers a wide range of gears and pulleys, pitman arms, etc. The illustration above shows it being used in conjunction with a bearing separator to pull a V-belt pulley from an electric motor. The circular plate attachment is included with three models while the screw point protector is included with all sets to protect the screw tip when used on shafts without a center hole. Drop forged jaws provide maximum strength. Content of sets is shown at bottom of page.

E	CG-270	2-Jaw Medium Basic Gear Puller
E H	CG-270A	2-Jaw Medium Standard Gear Puller
F	CG-270H	2-Jaw Medium Basic Slide Hammer Gear Puller
F H	CG-270HA	2-Jaw Medium Standard Slide Hammer Gear Puller
F G H	CG-270C	2-Jaw Medium Combination Gear Puller

Parts List of units comprising Small and Medium Puller Sets

DESCRIPTION	Stock No.	CG-250	CG-250A	CG-250H	CG-250HA	CG-250C	Stock No.	CG-270	CG-270A	CG-270H	CG-270HA	CG-270C	Stock No.	CG-271	CG-271A	CG-271H	CG-271HA	CG-271C
Hexhead Screw	CG-250-1	1	1			1	CG-270-1	1	1			1	CG-270-1	1	1			1
Yoke (2 Jaw)	CG-250-2	1	1	1	1	1	CG-270-2	1	1	1	1	1						
Yoke (3 Jaw)													CG-271-2	1	1	1	1	1
Jaw	CG-250-3	2	2	2	2	2	CG-270-3	2	2	2	2	2	CG-270-3	3	3	3	3	3
Locking Plate (2 Jaw)	CG-250-5	1	1	1	1	1	CG-270-5	1	1	1	1	1						
Locking Plate (3 Jaw)													CG-271-5	1	1	1	1	1
Spring	CG-250-6	1	1	1	1	1	CG-270-6	1	1	1	1	1	CG-270-6	1	1	1	1	1
Adjusting Nut	CG-250-7	1	1	1	1	1	CG-270-7	1	1	1	1	1	CG-270-7	1	1	1	1	1
Slide Screw Bar	CG-250-8			1	1	1	CG-270-8			1	1	1	CG-270-8			1	1	1
Booster Hammer	CG-250-9			1	1	1	66-7			1	1	1	66-7			1	1	1
Circular Plate Attach. with four each ½"-20 and ½"-24 Bolts	★CG-1		1		1	1	★CG-1		1		1	1	★CG-1		1		1	1
¼" diameter Screw Point Protector	★CG-5	1	1	1	1	1	★CG-5	1	1	1	1	1	★CG-5	1	1	1	1	1
Cross Bar	10-F			1	1	1	10-F			1	1	1	10-F			1	1	1

MAKE THE JOB EASIER!

other pullers of their size

MEDIUM 3-JAW PULLERS — 8½" JAW CAPACITY

These pullers have a maximum jaw capacity of 8½" on outside holds and will operate through a 2½" opening for inside pulls. They have a 10 ton power capacity. With the exception of the 3-way yoke and locking plate all parts are identical to the CG-270 sets shown on page 94. If you already own one of the CG-270 sets you can adapt it to 3-jaw use by adding only the 3-way yoke, 3-way locking plate and one extra jaw as all the other parts are interchangeable. Yoke has two sets of slots to enable the jaws to be set closer to the screw for better gripping power on smaller jobs. Parts are listed at bottom of page 94.

I	CG-273	3-Jaw Medium Basic Puller
I K	CG-273A	3-Jaw Medium Standard Puller
J	CG-273H	3-Jaw Medium Basic Slide Hammer Puller
J L	CG-273HA	3-Jaw Medium Standard Slide Hammer Puller
J K L	CG-273C	3-Jaw Medium Combination Puller

LONG JAWS FOR INSIDE PULLING JOBS

Interchangeable With Standard Jaws on CG-250, CG-270 and CG-273 Series Pullers

★**CG-250-10 Long Jaw.** Increase the usefulness of your small and medium puller sets. Designed for inside pulling of bearings, bushings, etc., they "lock-on" for inside holds up to 8" in diameter and will reach into a ¾" opening to a depth of 3" before binding. Can also be used for light work on outside holds. Overall length 7½".

INLOX BUSHING REMOVERS

Use with the CG-270 Gear Puller. Adaptor is placed at end of bushing so it will ride through the shackle . . . puller screw is centered on the adaptor and the jaws placed around opposite side of shackle. Pressure applied to the screw will quickly remove the bushing.

CG-275 Set of 5 Removers.

CG-275-1 ... 1¼" Bushing Remover
CG-275-2 ... 1 9/16" Bushing Remover
CG-275-3 ... 1⅝" Bushing Remover
CG-275-4 ... 1 13/16" Bushing Remover
CG-275-5 ... 1⅞" Bushing Remover

GEAR PULLER SCREW POINT PROTECTORS

These Screw Point Protectors fit over the tapered point of the puller pressure screw and prevent it from being damaged when puller is used on a shaft without a center hole. Three sizes for different diameter pressure screws are available.

CG-10 Set of 3 Screw Point Protectors

CG-6 ..... 5/16" Screw Point Protector
CG-7 ..... ½" Screw Point Protector
CG-8 ..... 1 1/16" Screw Point Protector

LARGE PULLER — 12" JAW CAPACITY

9½" Reach . . . 12" maximum jaw spread on outside hold. On inside pulls, jaws operate through openings 3½" in diameter. Its 20 ton power capacity makes this the puller for those big, tough jobs. Jaws are forged from special alloy steel then heat treated and hardened for the strength to stand up under severe punishment. This model comes in the screw type only. Once set, you merely apply pressure to screw, and stubborn gears and pulleys are loosened without danger to any of the parts. Pressure screw has 1" hexagon head for convenient operation with a standard wrench. Parts making up this puller are listed below.

M **CG-300 Large Standard Gear Puller.**

EXTRA LARGE PULLER — 14" JAW CAPACITY

Over 14" reach . . . 14" jaw capacity on a standard 4" face gear—or 16" jaw capacity on a 3½" face gear. Pressure screw has a 1" hexagon head and can be turned with any standard wrench of that size . . . we recommend a socket wrench or Boxocket wrench. Here are over 20 tons of pulling power harnessed through extra long jaws to reach gears, etc., that cannot be touched with other pullers. Industrial maintenance men like these Snap-on pullers because they are easily hooked up to the job . . . the knurled jaw adjusting nut tightens the locking plate and clamps the jaws behind the gear . . . once locked on they stay locked on until you release them. Snap-on pullers work quickly—surely—safely.

N **CG-305 Extra Large Gear Puller.**

Parts list of units comprising above Large and Extra Large Pullers

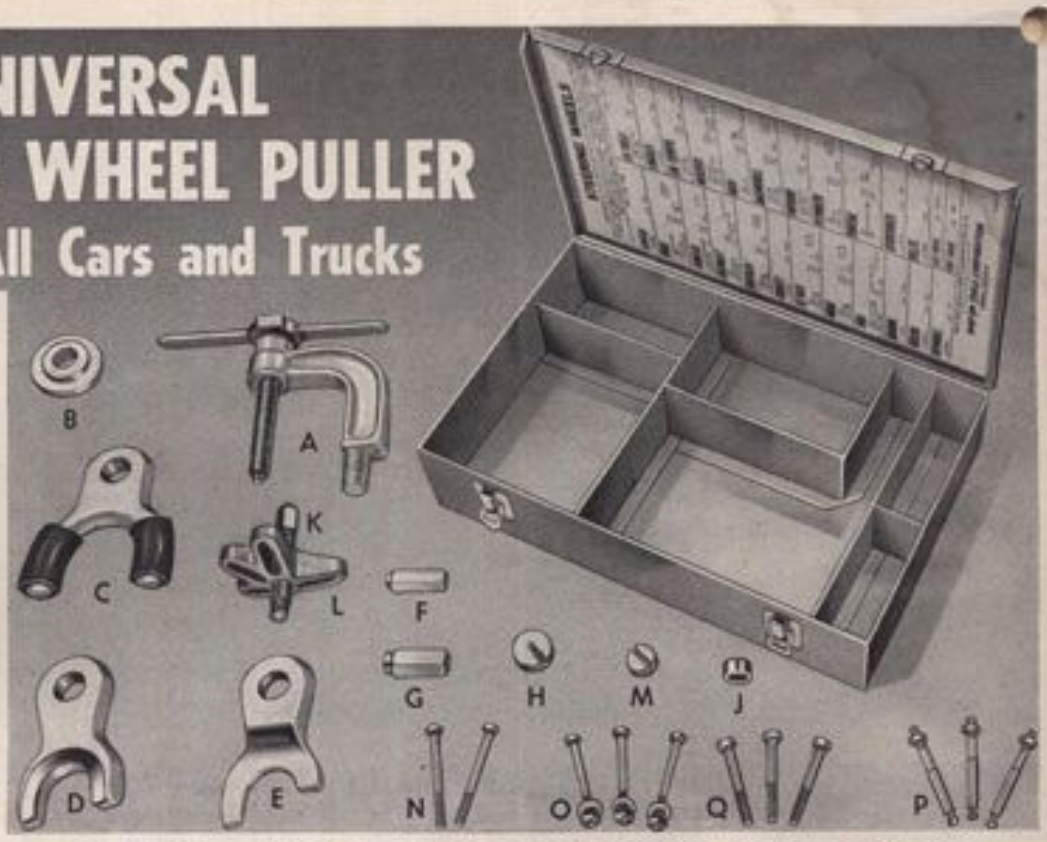
CG-300 PULLER		Part Description	CG-305 PULLER	
Part No.	Quantity		Part No.	Quantity
CG-300-1	1	Hexhead Screw	CG-300-8	1
CG-300-2	1	Yoke	CG-300-2	1
CG-300-3	2	Jaw	CG-300-9	2
CG-300-5	1	Locking Plate	CG-300-5	1
CG-300-6	1	Spring	CG-300-6	1
CG-300-7	1	Adjusting Nut	CG-300-7	1

COMPLETE STANDARD GEAR PULLER SET

CG-573A Set. This matched set of Snap-on pullers will provide the right size tool for most of the pulling jobs you'll run up against. Consists of the CG-250A Small Standard Puller Set which includes the circular plate attachment, the CG-270 Medium Basic Puller and the CG-300 Large Standard Puller. These three screw-type pullers provide a pulling capacity up to 12" in diameter for outside holds.

UNIVERSAL STEERING WHEEL PULLER

Handles All Cars and Trucks



Here's How It Works!

Large frame assembly and narrow fork as used on certain models of Chevrolet cars. Pressure screw rests on the shaft inside the hub.

As used with frame assembly and wide fork on late model steering wheel. Slotted adaptor is used to protect horn wire.

The wide fork and frame assembly as used on late model Hudson. Slotted adaptor is used to protect the horn wire.

Yoke Assembly used to pull a late model steering wheel . . . horn wire is pulled out and the adaptor slot straddles the wire. See Yoke Set at right.

AN EASIER, FASTER AND BETTER WAY TO DO THIS JOB

This Steering Wheel Puller Set pulls all steering wheels safely and quickly, eliminates the need for special pullers. A puller that services older models only is of little value, but one set that services them all is something you can't afford to be without.

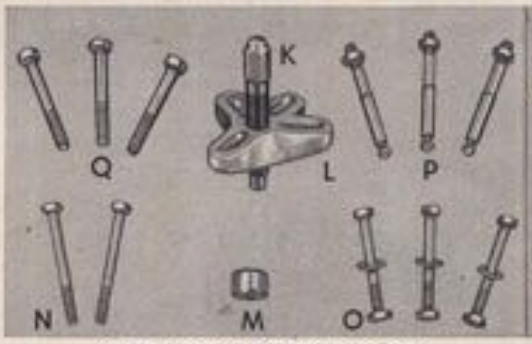
Interchangeable jaws and bushings quickly adapt it to any type of steering wheel hub and place smooth, powerful pressure at exactly the right place to assure a fast, safe job. The narrow fork has brass insert, wide fork has rubber sleeves to protect the steering column. The pressure screw does not turn . . . it is milled its entire length and works through a threaded bushing and key—thereby eliminating any possibility of damage to the shaft. Pressure screw and forks are in positive alignment, and the forged "T" beam standard does not permit give or spring.

The Yoke Assembly is for slotted and other late design hubs and is used with the studs.

CG-60F-B Universal Steering Wheel Puller Set. Containing all parts shown above and listed below, in KR-106 Metal Box.

CG-60F Set. Above set, tools only.

A	CG-60H	Frame Assembly
B	CG-60-2	Frame Nut
C	CG-60-3	Wide Fork
D	CG-60-4	Narrow Fork
E	CG-60-4A	Special Fork for 1939 Mercury
F	★CG-60K-1	1940 Ford—Mercury Shock Puller
G	★CG-60K-2	Chevrolet Shock Puller
H	CG-60-11A	Slotted Adaptor
	CG-60-12-1	(Not shown) Large Truck Adaptor
A	CG-60R-1	Yoke Pressure Screw
B	CG-60R-2	Four Arm Yoke
C	CG-60R-3	Pressure Screw Adaptor
D	CG-60R-4	Special Buick Adaptor
E	★CG-60-7-4	Two 5/16" N.F. Studs
F	★CG-60-7-6	Three 5/16" N.C. Studs with Nuts and Washers
G	★CG-60-7-7	Three Buick Studs
H	★CG-60-7-8	Three 5/8" N.C. Studs
	KR-106	Special Metal Box

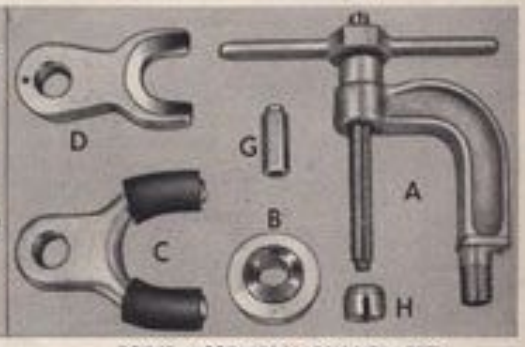


YOKE ASSEMBLY PULLER SET

CG-60E-B Yoke Set. For slotted type and other late design hubs. Consists of the following parts illustrated above. In KR-106 Special Metal Box.

CG-60E Set. Above set, tools only.

A	CG-60R-1	Yoke Pressure Screw
B	CG-60R-2	Four Arm Yoke
C	CG-60R-3	Pressure Screw Adaptor
D	★CG-60-7-4	5/16" N.F. Studs. (2 required)
E	★CG-60-7-6	5/16" N.C. Studs and Nuts (3 req.)
F	★CG-60-7-7	Buick Studs. (3 required)
G	★CG-60-7-8	5/8" N.C. Studs. (3 required)



FORK ASSEMBLY PULLER SET

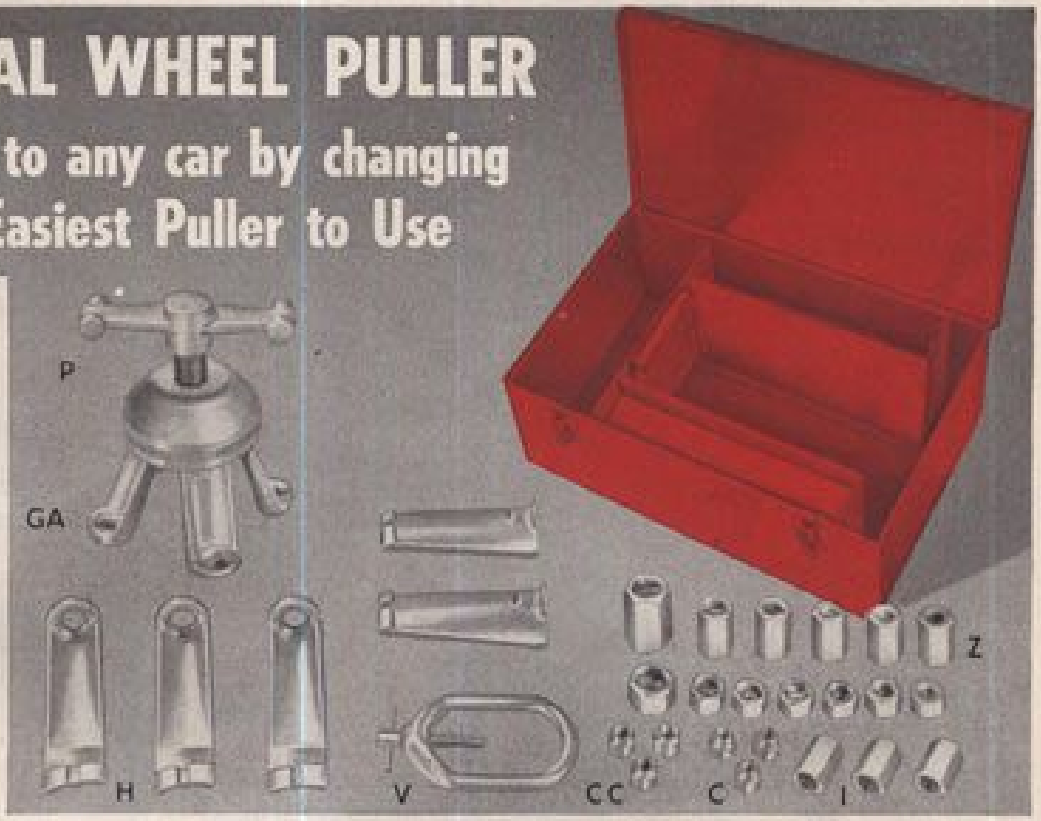
CG-60D-B Fork Set. For servicing standard type hubs. Consists of the following parts illustrated above. In KR-106 Special Metal Box.

CG-60D Set. Above set, tools only.

A	CG-60H	Frame Assembly
B	CG-60-2	Frame Nut
C	CG-60-3	Wide Fork
D	CG-60-4	Narrow Fork
E	CG-60-11A	Slotted Adaptor
F	★CG-60K-2	Chevrolet Shock Puller

UNIVERSAL WHEEL PULLER

Adaptable to any car by changing Jaws—Easiest Puller to Use



HOW TO INTERCHANGE JAWS

To interchange jaws, hold two together as shown. This depresses the inner sleeve and allows room to remove or insert other jaws—It only takes a jiffy.

THRUST NUTS PROTECT THE AXLES

Blue-Point Thrust Nuts should be used on small and medium sized axles to protect the threads while pulling the hub. It takes time to clean up or re-cut threads after they have been damaged. These nuts, machined from high quality steel and especially heat treated, will more than repay their small cost.

★TN-1300 Set of 13 Thrust Nuts.

★TN-201—⅝" x 18, ¾" long.
★TN-202—⅝" x 18, 2" long.
★TN-241—¾" x 16, ⅞" long.
★TN-242—¾" x 20, 2" long.
★TN-243—¾" x 16, 2" long.
★TN-261—13/16" x 16, ⅞" long.
★TN-281—⅞" x 14, ⅞" long.
★TN-282—⅞" x 18, ⅞" long.
★TN-283—⅞" x 14, 2" long.
★TN-321—1" x 14, ⅞" long.
★TN-322—1" x 14, 2" long.
★TN-401—1¼" x 12, ⅞" long.
★TN-402—1¼" x 12, 2½" long.

THIS VIEW SHOWS HOW THE SPECIAL FORD SET IS USED

Pictured above is the practical application of the Special Ford Wheel Puller Set. This set will service all Ford Passenger cars since 1928 as well as the Mercury and Lincoln Zephyrs. Ford Trucks require the set of three long jaws 4567-H illustrated (H) at top of page. By including these with the special Ford puller set VP-4567-B Set listed at right, you can service Ford passenger cars since 1928 and Ford trucks.

UNIVERSAL WHEEL PULLER SAVES TIME AND MONEY ON EVERY JOB

It pulls any demountable wheel hub for any passenger car and most light weight trucks by inserting the proper type jaws and attaching the tool to the stud bolts. The patented pressure screw drive is known to be the fastest, easiest, safest, and most efficient method of pulling any hub . . . . The interchangeable jaws pivot and swing to any desired bolt circle. Pulling is always direct from the housing flange, and the jaws automatically center themselves, providing a positive direct leverage regardless of the working angle of the jaws.

The relatively low cost of this equipment is no real measure of its full economy—it will do every job efficiently—without waste of time and without danger to any part of the car or to the operator. Compare the advantages of the Blue-Point Universal Wheel Puller with any other type.

UNIVERSAL WHEEL PULLER SET

Y-4567A-B Universal Wheel Puller Set. Services passenger cars and most light trucks with demountable wheels. Contains all parts listed below. Complete in KR-107 Metal Box.

P — **4567-P** Body and Drive Assembly—contains the following parts: 4567-A-BB-DD-EE-F.
- **4567-A** ..... Screw and Handle
- **4567-BB** ..... Puller Body
- **4567-DD** ..... Puller Sleeve
- **4567-EE** ..... Puller Washer
- **4567-F** ..... Puller Spring

GA — **4567-GA** ..... Set of four short jaws.

H — **4567-H** ..... Set of three long jaws.

V — **4567-V** ..... Ford passenger car grooved hub set.

C — **4567-C** ..... Set of three ⅝" tapered stud nuts.

CC — **4567-CC** ..... Set of three 13/16" tapered stud nuts.

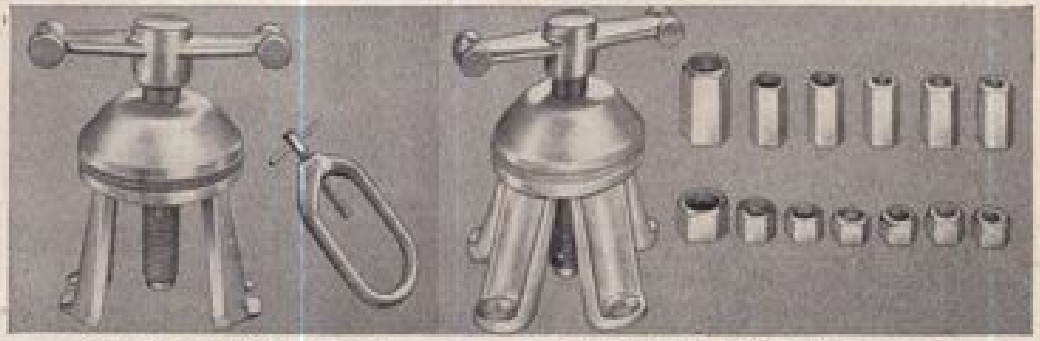
I — **4567-I** ..... Set of three, right and left hand ¾" stud nuts.

TN — **TN-1300** ..... Set of thirteen axle thrust nuts.

KR — **KR-107** ..... Special Metal Box

Y-4567A Universal Wheel Puller Set. Same set as above but tools only.

Y-4567B Set. Same as above but minus TN-1300 Set of thrust nuts and Box.



FORD WHEEL PULLER SET

VP-4567-B Ford Wheel Puller Set. Services Ford passenger cars back to 1928 models—also Mercury and Lincoln Zephyr. This set, shown in use at the left, consists of 4567-P Body and Drive Assembly, 4567-V Ford Grooved Hub Set including TN-201 Thrust Nut, in KR-107 Special Metal Box.

VP-4567 Ford Wheel Puller Set, tools only.

STANDARD WHEEL PULLER SET

S-4567A-B Standard Wheel Puller Set. For passenger cars and light trucks, except Ford, Mercury and Lincoln-Zephyr. Other units can be added as you find need for them. It consists of 4567-P Body and Drive Assembly, 4567-GA Set of Four Short Jaws and TN-1300 Set of thirteen Thrust Nuts, complete in KR-107 Metal Box.

S-4567A Standard Wheel Puller Set, tools only.
S-4567B Set. Same as above but minus TN-1300 Set and Box.

Blue-Point WHEEL ALIGNMENT EQUIPMENT

The Accurate — Simple — Portable Method of Checking

CASTER . . . CAMBER . . . TOE-IN . . . AND TURNING RADIUS

TURNTABLE SET

This Outfit Brings Wheel Aligning Right Down to its A-B-C's!

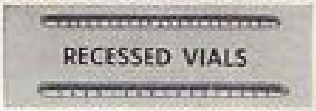
In any shop . . . regardless of the equipment you may now have . . . this Blue-Point Wheel Alignment Equipment will prove faster and easier for your men to use. It will help you build your shop business . . . in a few minutes you can show a customer exactly what is causing erratic steering or excess tire wear . . . and you've got another profitable aligning job.

IT'S PORTABLE: Use it on any level spot in the shop. Paint positioning marks for turntables . . . there's no need to tie up valuable space permanently—between jobs the space is available for other work.

IT'S SIMPLE: Anyone can easily read the precision etched vials in the magnetic gauge and the clearly marked degrees on the turntables. No complicated computations are necessary.

IT'S ACCURATE: None more so, because the magnetic gauge is held to the exact center of the only machined surface of the wheel.

Powerful Alnico magnets attach the gauge firmly to the machined hub flange of the wheel. The spring loaded centering plunger insures that readings will be taken from center of spindle.



Vials are recessed below the surface of the face plate to protect them against knocks.

Vials are ground internally to eliminate any interior imperfections and are curved to prevent "lazy bubbles"—the bubble travels quickly and accurately between the evenly spaced markings etched on the vials.

Turntables not only rotate on a center spindle but table and dial are free-floating on ball bearings in any direction.

Magnetic Caster-Camber Gauge

WA-602 Set of Two Magnetic Caster-Camber Gauges complete in oak box.
WA-60A One Magnetic Gauge in oak box.

Important Features

1. **Alnico Magnets.** Permanent and powerful.
2. **Centering Plunger.** Fits spindle center hole.
3. **Octagon Housing.** Won't roll when laid down.
4. **Precision Ground Vials.** Evenly spaced markings.
5. **Replaceable Vial Assemblies.** Easily removed.
6. **Markings.** Etched vial marks cannot rub off.
7. **Thick Aluminum Housing.** Rugged yet light.
8. **Caster Scale Adjuster.** Even with greasy hands it's easy to turn this adjusting screw.
9. **Leveling Bubble.** End location is easily seen even on cars with low, overhanging fenders.
10. **Directions.** Caster directions printed on gauge. For camber you level gauge and read camber vial.

Each magnetic gauge carries a 90-day guarantee.

(A) Gauge Adaptors for Trucks

WA-65 Adaptor, 2¼" outside diameter.
WA-66 Adaptor, 2⅞" outside diameter.
WA-67 Set. One each of above adaptors.

BALL-BEARING TURNTABLES

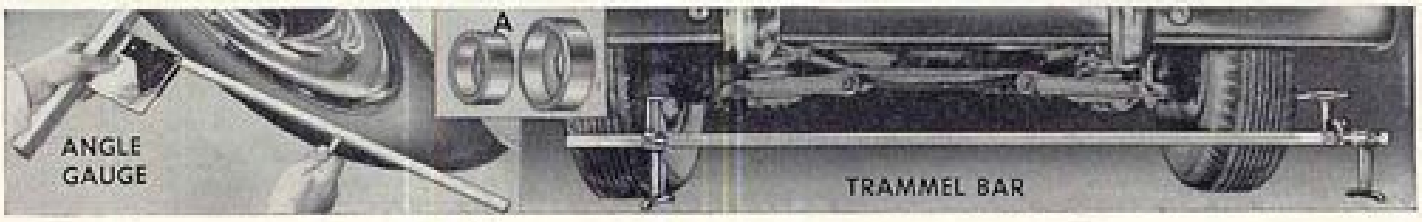
WA-62 Turntable Set. Consists of two Turntables illustrated at right for use with the Magnetic Gauge for greatest accuracy and ease of operation. The waffle plates are mounted on ball bearings and turn easily in either direction. A special "free-floating" design permits the plate to move in any direction as the wheels are turned to eliminate any stresses or resistance which could offset the gauge readings. Two pins hold the plate at the "zero" position while the car is being driven on the turntable.
Readings are direct and are indicated in degrees by the large pointer making it easy to check caster as well as turning radius. Carrying handles can be used to hang the units on a board or wall.

ANGLE GAUGE

WA-52A Angle Gauge. Used with the Trammel Bar to set the left front wheel in "straight-ahead" position before checking Toe-in. Shown below.

TOE-IN TRAMMEL BAR

WA-51 Trammel Bar. This seven foot bar with traveling gauge gives you a fast method of checking toe-in. The traveling gauge is calibrated in inches for easy reading. Shown below.



Snap-on KING PIN and PERCH PIN PRESS SETS

Remove the tightest pins quickly . . . easily . . . safely

EXERT OVER 20 TONS OF PRESSURE

NEW TRUCK SET LISTED BELOW IS NOT ILLUSTRATED

The Snap-on King Pin Press provides an easy way to remove the most stubborn King Pins and eliminates need for heating or for sledge hammer tactics. This tool does away with such time taking and dangerous methods . . . it works right on the job without pulling the axle and exerts a steady powerful pressure that pushes the pin out safely, easily and quickly. It has plenty of power and strength to handle the toughest jobs.

Ford perch hangers can be quickly removed with the four special parts included in the complete set. To remove King Pins, the front wheel is removed and the two yoke posts slipped over the axle and steering knuckle plate.

The heads swivel enough to adapt themselves to practically any car. Various pilots adapt the tool to the different sizes of King Pins used on Ford, Chevrolet, Plymouth and other cars. Snap-on's King Pin Press has long been a popular tool and we believe it to be the most efficient tool yet developed for this work.

CG-220C-B Complete King Pin and Ford Perch Pin Set. Services most cars and light trucks. Complete in KR-105A metal box. Box is 14" x 11" x 3"—red enamel finish.

CG-220C Set. Above set without the box.

CG-212A-B General Purpose King Pin Set. Services most cars and light trucks including Ford 1 ton and 1½ ton trucks with solid King Pins. Complete in KR-105A box.

CG-212A Set. Above set without the box.

LIST OF KING PIN AND PERCH PIN PRESS PARTS

For Cars—Light Trucks					For Trucks	
Key Letter	Stock No.	Set CG-220C-B	Set CG-212A-B	Description of Part	Stock No.	Set CG-230
(A)	CG-21A	1	1	Pressure Screw	CG-230-1	1
(B)	CG-21B	1	1	Screw Yoke	CG-230-2	1
(C)	CG-21C	1	.....	Ford Head		
(D)	CG-21D	2	2	Screw Yoke Post	CG-230-4	2
(E)	CG-21E	1	1	¾" Long Pilot		
(F)	CG-21F	1	1	¾" Short Pilot		
(G)	CG-21G	1	1	⅝" Pilot		
(H)	CG-21H	1	.....	Pilot Bearing		
(J)	CG-21J	2	2	Post Nut	CG-230-5	2
(K)	CG-21L6	1	.....	Perch Head		
(L)	CG-21L2	1	.....	Perch Thrust Nut		
(M)	CG-21L3	1	.....	Perch Pilot		
(N)	CG-21L4	1	.....	Perch Adapter Guide		
(O)	CG-21P5	1	1	General Use Head	CG-230-3	1
(P)	CG-21P3	1	1	1½" Bushing	CG-230-6	1
(Q)	CG-21P2	1	1	1" Bushing		
(R)	CG-21P6	1	.....	1" Ford Bushing		
(S)	CG-21P7	1	.....	⅞" Ford Bushing		
(T)	CG-21G	1	.....	⅝" Pilot Bearing for CG-21H		
(U)	CG-21H	1	.....	11/16" Pilot for Ford 1½ ton Trucks		
	KR-105A	1	1	Metal Case		
				2" Pilot	CG-230-7	1
				5" Pilot	CG-230-8	1
				6" Pilot	CG-230-9	1
				8" Pilot	CG-230-10	1

CG-21P6 is required for 1949-50 Fords with knuckle supports not machined on top.
CG-21P7 is required for 1950 and later Fords with knuckle supports machined on top.

TRUNNION PIN ATTACHMENT SET

CG-4 Trunnion Pin Attachment Set. Used with the Snap-on King Pin Press to remove and replace trunnion pins on Detroit No. 2 universal joints. Makes easy work of "ball and trunnion" universal joint repairs. Specifications call for this pin to be set within .006" of center and this attachment centers the pin into the ball within that tolerance. Parts included are—

CG-4-1 Pilot (one)
CG-4-2 Spacer (one)
CG-4-3 Mandrel (one)
CG-4-4 Bushing (two)

CG-414A Trunnion Pin Set. Consists of CG-4 Trunnion Set and the following King Pin Parts. Pressure Screw, Yoke, two Yoke Posts, two Post Nuts, General Use Head and 1½" Bushing.

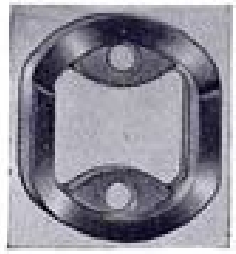
CG-417A King Pin and Trunnion Pin Set. Consists of the CG-212A King Pin Set and CG-4 Trunnion Pin Attachment Set.

TRUCK KING PIN PRESS SET

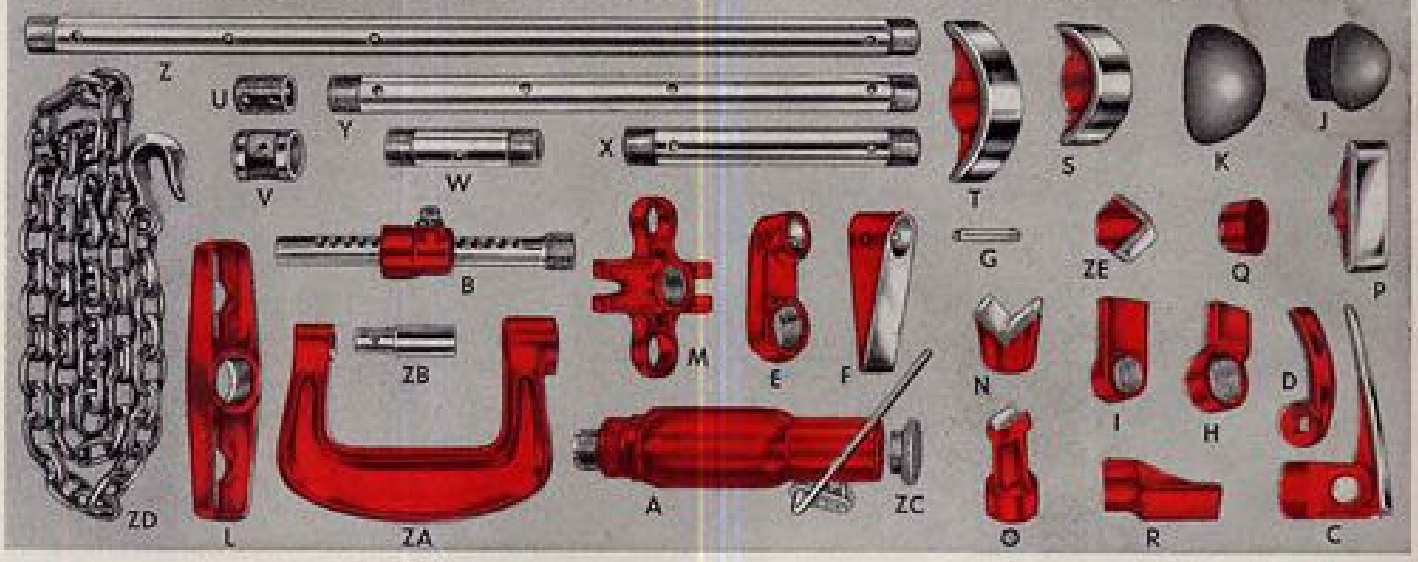
CG-230 Truck King Pin Press Set. Contains the units listed above at right. The parts are similar in appearance to their counterparts in the illustration but are bigger and stronger. The pressure screw hex head fits a 1½" socket or boxsocket wrench. This set will not fit into the box shown above.

PERCH HEAD FOR LATE MODEL FORD

CG-21L5 Ford Perch Head. This special head is required for use with the King Pin Tool on Ford car models from 1941 to 1948 inclusive. On all light Ford trucks 1941 to 1948 that have a regular passenger car chassis this head is also required. On heavier Ford trucks the regular head included in the above sets handles the job. Add this special head to your present Snap-on King Pin Set.



Snap-on Hydra-Pak FOR FASTER, EASIER, BODY 10 TONS OF POWER . . . CONTROLLED PRESSURES



MAKE BIGGER PROFITS ON EVERY JOB WITH HYDRA-PAK

No Hoses . . . No Motors . . . No Remote Power Connections

Use the new, easy Snap-on way to apply hydraulic power with greater speed and accuracy. Using HYDRA-PAK is as simple as using a hand jack—the hydro-unit is right in front of you, on the tool itself where you can regulate power as you watch the job . . . where one man can handle the tool and job all by himself and do better, faster work because he can see what he does as he does it. HYDRA-PAK has no hose for transmission of fluid, no motors, no remote power connections.

The Right Pressure Always . . . Because You Always See the Work

HYDRA-PAK gives you precision hand-control of 10 tons of power, applied through various combinations of specialized attachments to push, pull, bend, spread, press, lift and clamp . . . controlled power for every operation necessary in body rebuilding work. Cutting power is like shutting a valve . . . the "push" stops instantly, no easing off, no over riding. HYDRA-PAK also retracts automatically . . . saves time on each set-up. Write for descriptive Hydra-Pak Manual.

Choice of Three Sets

The BJ-10 Body Shop Set includes all the parts listed below. The units in the other two sets have been carefully selected to provide adequate working adaptability for the average body shop job, additional units can be purchased as needed to make these sets more versatile.

BJ-10 Body Shop Hydra-Pak Set.
BJ-10-M Basic Shop Hydra-Pak Set.
BJ-10-J Car Dealer's Hydra-Pak Set.

Individual List of Hydra-Pak Parts That Make Up Hydra-Pak Sets

Key Letter	Stock No.	Description	BJ-10 Set	BJ-10-M Set	BJ-10-J Set
A	BJ-10-1D	Hydra-Ram Power Unit	x	x	x
B	BJ-10-2	Kwixtension	x	..	..
C	BJ-10-3	Adj. Body Spoon Complete with BJ-10-3-2 Large Dolly Blade	x	x	x
D	BJ-10-3-3	Small Dolly Blade for BJ-10-3 Adj. Spoon	x	..	..
E	BJ-10-4-1	Ext. Tube Clamp Head	x	x	..
F	BJ-10-4-2	Clamp End Toe	x	x	..
G	BJ-10-4-3	Clamp Toe Lock Pin	x (2 incl)	x (2 incl)	..
H	BJ-10-5-1	Spreader Toe	x	x	..
I	BJ-10-5-2	Spreader Plunger Toe	x	x	..
J	★BJ-10-6	Plastic Pad (Sm.)	x	x	x
K	★BJ-10-7	Plastic Pad (Lg.)	x	x	..
L	BJ-10-8	Chain Pull Plate (Lg.)	x	..	..
M	BJ-10-9	Chain Pull Plate (Sm.)	x (2 incl)	..	..
N	BJ-10-10	90° V-Base (Lg.)	x	x	x
O	BJ-10-11	90° V-Base (Sm.)	x (2 incl)	..	..
P	BJ-10-12	Flat Base Pad	x	x	x
Q	BJ-10-13	Serrated Plunger Saddle	x	x	x
R	BJ-10-14	Wedge End	x	x	x
S	BJ-10-15	3" Radius Pad	x	x	..
T	BJ-10-16	5" Radius Pad	x	x	x
U	BJ-10-17	Pad Coupler	x	x	x
V	BJ-10-18	Tube Coupler	x	x	x
W	BJ-10-21	6" Seamless Steel Ext. Tube	x	x	x
X	BJ-10-22	12" Seamless Steel Ext. Tube	x	x	x
Y	BJ-10-23	24" Seamless Steel Ext. Tube	x	x	x
Z	BJ-10-24	36" Seamless Steel Ext. Tube	x	x	x
ZA	BJ-10-27	"C" Clamp	x	..	..
ZB	BJ-10-27-1	"C" Clamp Adaptor	x	..	..
ZC	BJ-10-28	Hydra-Ram Base Plate	x	..	..
ZD	★BJ-10-29	Special 3/4" Alloy Chain	x (2 incl)	..	..
ZE	BJ-10-31	Angle Base Pad (90°)	x	x	..

HYDRA-RAM ADAPTORS

Two new units which adapt the Hydra-Ram to fit Blackhawk Porto-Power accessories, or Hydra-Pak parts to the Porto-Power Jack. Both units are required in either case.

BJ-10-33 Adaptor. 1¼" x 11½ taper pipe thread male end, 1½" x 12 thread female end. 2¾" long.

BJ-10-34 Adaptor. 1½" x 12 thread male end, 1¼" x 11½ taper pipe thread female end. 2 11/16" long.

HYDRA-PAK GUARANTEE

All Hydra-Pak parts and attachments (except the plastic pads and chains) carry a guarantee against defects in workmanship and materials. In the case of the Hydra-Ram Power Unit this guarantee is limited to a period of 90 days from date of purchase.

AND FRAME STRAIGHTENING TO THE FRACTION OF AN INCH

THE HYDRA-RAM IS A SELF CONTAINED HYDRAULIC POWER UNIT—NO FLUID HOSES OR REMOTE POWER CONNECTIONS

SNAP-ON HYDRA-RAM

BJ-10-1D Hydra-Ram. This self-contained hydraulic power unit develops ten tons of pressure and operates at full efficiency regardless of the position in which it is used. That means you can use it on any job in whatever is the most useful working hook-up and placement and know that it will deliver its full power under complete control at all times. The pump handle attaches in 12 positions for convenient use.

The plunger does not turn but moves straight out for a full 6" travel to apply pressure without twisting the contact pad out of position. It stops and holds securely at any point on the travel range but can be retracted instantly by turning the release valve. Retraction takes place automatically and requires no assistance—closing the release valve readies the Ram for the next job.

The Hydra-Ram is 12" long, 3½" outside diameter, has a 6" stroke, weighs 14 lb.

A ADJUSTABLE SPOON

The spoon blades are quickly attached to the holder in any one of twelve working positions. Adjustments in position can be made without removing the set-up from the job. This is a great time saver as the blade position can be gradually adjusted as the job progresses. Slips into very restricted working spots to push out panels, etc.

BJ-10-3 Adjustable Spoon. With large blade.

BJ-10-3-1 Housing. **BJ-10-3-2** Large blade.

BJ-10-3-3 Small blade. **BJ-10-3-4** Blade pin.

B KWIXTENSION

BJ-10-2 Kwixtension. This exclusive HYDRA-PAK feature is a special attachment which provides a lightning-fast extension of tubes when making a set-up on the job. The Kwixtension provides an additional eight inches of tube length with fourteen stop positions before a change-over of extension tubes is necessary. You simply slide it out to the best stop position and then operate the Hydra-Ram Power Unit.

C EXTENSION TUBES

Made of Timken-Shelby Seamless Steel Tubing, Snap-on extension tubes are laboratory tested to withstand much greater pressures than you will ever apply with the Hydra-Ram. They are quickly and easily attached to the Hydra-Ram by means of free-turning threaded ends that are protected against burring by a special safety step at the end of the thread.

ALLOY STEEL ATTACHMENTS

Malleable and special alloy steels are used in all HYDRA-PAK attachments and pads, and the castings are carefully machined and surface-finished to assure safe, dependable operation and long service life . . . every necessary type of attachment is included, and hundreds of different combinations and set-ups to fit every kind of job can be made in a minimum of time. These attachments are threaded to fit the Hydra-Ram, and outer ends of threads are protected by a recessed safety step.

TWO NEW *Snap-on* UNITS FOR FASTER BODY SHOP WORK

HYDRA-PAK ROLL-CAB AND HYDRA-PAK ARBOR-PRESS

This New Roll-Cab Holds All Your Hydra-Pak Parts—Turns Walking Time Into Working Time

HYDRA-PAK ROLL-CAB

KR-390 Hydra-Pak Roll-Cab. Cab is open on both sides for quick access to tools. Overall size is 42" long, 29" wide, 33⅝" high. Bottom shelf measures 22" x 26" with 12⅝" clearance to top shelf. Top shelf has a low strip dividing it into two 22" x 10" sections, with 13½" top clearance . . . end openings allow storage of 36" extension tubes by sliding them into the end compartment.

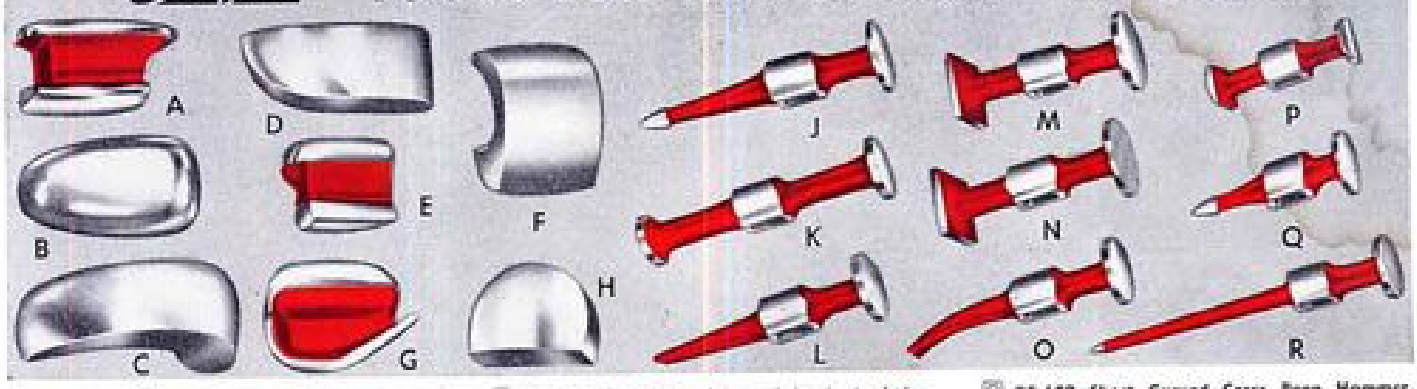
The end section is built to accept the Snap-on Arbor Press and the metal top is formed with an opening at that end. The entire top has a masonite covering in which a corresponding opening can easily be made and which provides a full work top if the arbor press is not wanted. Arbor Press and Hydra-Ram are not included with the Roll-Cab. Cab has red enamel finish and rolls on 3" diameter rubber casters—two fixed and two swivel toe-lock type.

Drawer space for handy storage of small parts or tools can quickly be added by attaching one or two KR-410 Drawers described on page 8 . . . four machine screws attach the drawers to the underside of Roll-Cab top. Net weight of Roll-Cab—111 lbs.

HYDRA-PAK ARBOR PRESS

BJ-10-35 Arbor Press. Designed for use on the Hydra-Pak Roll-Cab. The Snap-on Hydra-Ram is quickly locked into the sliding top plate to provide up to 10 tons of controlled press power. Here is an efficient unit for straightening bumpers and braces, tie rods, etc.; for installing bearings; pressing gears off shafts; as a general purpose shop press plates slide to any position for convenient operation. The Hydra-Ram and Roll-Cab are not included with the Arbor Press.

Snap-on TOOLS FOR FASTER BODY BUMPING



A **BF-714 Anvil Dolly.** The most essential and useful dolly made. The streamlined wide curved faces fit contours of all portions of the body and door panels. Provides ideal surface for most fenders. Small oval is perfect for outside curves when hammer is used on the inside of the work. 4" long, 2½" wide, 2¼" high. Anvil faces 1⅝" by 4"; 2⅜" by 3". Wt. 2⅞ lbs.

B **BF-709 Bar Dolly.** A good general block for all around use because of its many curves. Has large flat and rounded surfaces. 4½" long, 2⅝" wide, 1½" high. Wt. 3¼ lbs.

C **BF-713 Wedge Dolly.** Ideal for use on late model streamlined cars. Tapered wedge is useful for many jobs where other blocks cannot be used. Top surface is arched and the block gives you a wide choice of curves. 5½" long, 2⅝" wide, 1⅞" high. Wt. 3½ lbs.

D **BF-710 Toe Dolly.** With its many curves and edges, this tool fits a great many of the odd curves found on modern streamlined cars. 4⅜" long, 2¼" wide, ⅞" high. Wt. 2¼ lbs. A time saver on many jobs.

E **BF-712 General Purpose Dolly.** Especially designed for deep skirted fenders. Semi-flat surface is useful for shrinking work where heat is used. 3" long, 2⅛" wide, 2¼" high. Weight 2⅞ lbs.

F **BF-705 Fender Dolly.** For fenders with rolled edges and beads. The small curved end works perfectly under the rolled edge. 3⅝" long, 2⅛" wide, 1⅞" high. Wt. 2 lbs.

G **BF-706 Anvil Block.** Curved to fit the contours of all late model cars. Special shape provides a good hand hold. Protects the hand when heat is applied. 4" long, 2 11/16" wide, 3" high Wt. 3½ lbs.

H **BF-711 Heel Dolly.** A good basic tool for it handles a majority of jobs on new or old cars. 3" long, 2⅝" wide, 1⅝" high. Weight 2½ lbs. Should be in every body repair kit.

J **BF-603 Long Low Spot Pick Hammer.** Especially adapted for bumping out small, low spots while filing. Saves solder. Recommended for use wherever metal is covered with sound-proofing materials, such as tops, bodies and doors. 6¼" long, 1 17/32" round face. Pick tapers to a 1/16" point from a 5/16" base. Wt. 12½" ozs.

K **BF-613 Large Dinging Hammer.** Our largest dinging hammer. Has 6" double-faced head. One face is 1½" diam., other is 1½" dia. Wt. 9 ozs. Both heads are flat and polished.

L **BF-604 Wide Nose Cross Peen Hammer.** Excellent for finishing. Cross peen is useful for working in sharp corners around mouldings and for caulking. 5½" long, 1⅝" round face. Peen end ⅞" wide, 1/16" thick. Wt. 11½ ozs.

M **BF-606 Wide Face Shrinking Hammer.** Wide faces are essential for shrinking operations on heated metal panels. Both faces absolutely flat to prevent stretching metal. Also used for panel bumping. 4½" long, 1⅞" round face and 1⅝" square face. Wt. 17 ozs.

N **BF-610 Cross-Milled Shrinkage Hammer.** Has extra wide faces with serrated surfaces for shrinking and working large surfaces which are badly stretched. Cross-milled heads knead the metal and work it back into shape without heat. 4½" long, 1⅞" round face and 1 9/16" square face. Wt. 17 ozs.

O **BF-608 Short Curved Cross Peen Hammer.** Curved peen is for use under rolled edge fenders. Has perfect finishing face for use as regular dinging hammer. 3 9/16" long. 1⅞" round face, ⅝" by 1/16" peen end. Wt. 11½ oz.

P **BF-615 Light Bumping Hammer.** One 1 5/16" square face and one 1 5/16" round face. Each face has a 5/16" radius curve for work on reverse curves on fender panels around headlights and on some doors. Length of head 4". Wt. 10 oz.

BF-612 Bumping Hammer. (Not shown) Same as BF-615 above but with flat surface faces.

Q **BF-611 Picking and Dinging Hammer.** For smoothing out small dents and for general dinging work. 4" long, 1 15/32" round face. 1/16" point tapered from 5/16" base. Wt. 8 ozs.

R **BF-614 Long Picking Hammer.** 6" long picking shaft with rounded point . . . good for turret and deep fender work. The round flat face is 1⅝" diameter. Overall head length is 8⅝". Wt. 1 lb. Handle is 17" long.

FIRST GRADE HICKORY HANDLES

Standard 12" length handles used in these hammers have Octagon grip to keep tool from slipping. Handles are first grade white hickory and are available in 12", 17" and 24" lengths—complete with wood wedge.

★BF-603-2	12" Handle.	For BF-603, BF-604, BF-606, BF-604, BF-610, BF-613, BF-614.
★BF-614-2	17" Handle.	
★BF-611-2	12" Handle.	For BF-611, BF-612 and BF-615.

FLEX FILE HOLDER

A **★BF-775A Flexible File Holder**—as comfortable to hold as a plane. Light and rigid for accurate gauging. Ruggedly flexible over a wide range of concave and convex filing operations. Adjustable to all positions. Large handles of aluminum alloy provide ample grip for extra large hands—high clearance turnbuckle protects knuckles. Heat treated turnbuckle screws insure positive adjustment. Hinges are chatterproof. Permanently attached strap takes 14" files.

B **★14-V** Flexible curved tooth file, 8 teeth to inch.

C **★14-V7** Flexible curved tooth file, 7 teeth to inch.

HALF-ROUND VIXEN FILE

D **★14-VHR Vixen Shell Type Half-Round File.** Use this file where a milled-tooth half-round file is required. Can be used on bearing work or on body work. Teeth are standard cut 8 teeth per inch and are cut on convex side only. File length is 14". Fits BF-775A Flexible File Holder.

STRAIGHT WOOD FILE HOLDERS

Made from choice hard maple for light weight and durability. Narrow enough to allow file overhang on both sides. File can be convexed by inserting wedge under center. Use with the 14-V or 14-V7 14" Vixen files listed at left.

E **BF-141 Saw Handle Type File Holder.**

F **BF-142 Straight Type File Holder.**

CURVED WOOD FILE HOLDERS

G **BF-145 Special Window Reveal File Holder.** Two screws included. Only ⅝" wide.

★HB-473F File, to fit above handle. Flat shape. Teeth on one side only.

H **BF-143 Vixen Half Circle File Holder.** For fender and contour work where a forward stroke is needed.

★HB-470F File to fit above. Teeth on convex side of the file.

BF-144 Special Vixen Curved File Holder. 14" long. Useful on fenders.

★HB-471F File, to fit above handle. Standard cut teeth on one side only.

BUMPING FILES

I **★HB-303 Bumping File Set.** These files are 12" long and 1⅝" wide, and are used like hammers with dolly blocks to slap out dents in bodywork. They do not expand the metal but rather tend to contract to original shape. Set contains three files below:

★HB-2088 Flat, Coarse Cut File.
★HB-2089 Flat, Medium Cut File.
★HB-2090 Half-Round Medium Cut File.

VIXEN REVEAL FILES

★HB-606 Vixen Reveal File Set. One of the most useful sets for body and fender work. Smoothes out ledges and corners. Includes—

J **HB-152 Vixen Reveal File Holder,** only

K **★HB-153F Half-Round, Shell File.**

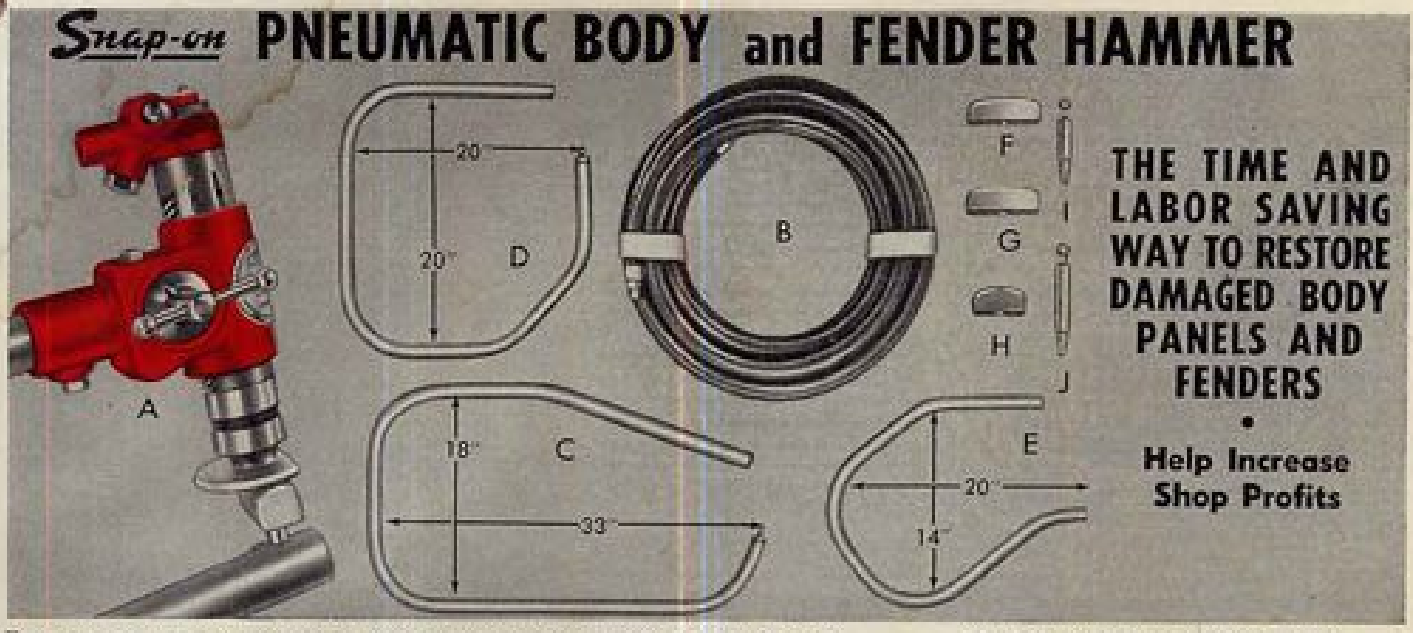
L **★HB-154F Square-Cornered Bent Edge File**

M **★HB-155F Flat, Rounded Edge File.**

N **★HB-156F Half-Round, Bent Shell File.**

O **★HB-157F Half-Round, Moulding File.**

Snap-on PNEUMATIC BODY and FENDER HAMMER



THE TIME AND LABOR SAVING WAY TO RESTORE DAMAGED BODY PANELS AND FENDERS

•

Help Increase Shop Profits

Even an apprentice can do a professional body bumping job with the Snap-on Pneumatic Body Hammer . . . and at a great saving in time and effort. Because of a universal ball socket in the head of the hammer, the tool travels freely over and follows the contour of the work with no "fighting" on the part of the operator to keep it perpendicular. This feature eliminates the danger of stretching the metal that otherwise occurs by "cocked" blows.

The hammer operates on 100-150 lbs. of air pressure. A positive "ON"-"OFF" switch provides instant starting or stopping of the unit while a convenient knurled adjusting nut provides constant speed and power controls. Tension of the hammer against the work is controlled by a ratchet built into the head. Simply turning a lever takes up the slack and increases the tension between the work and the hammer as the damaged area is smoothed out. The unit retracts fully for application or removal from the work.

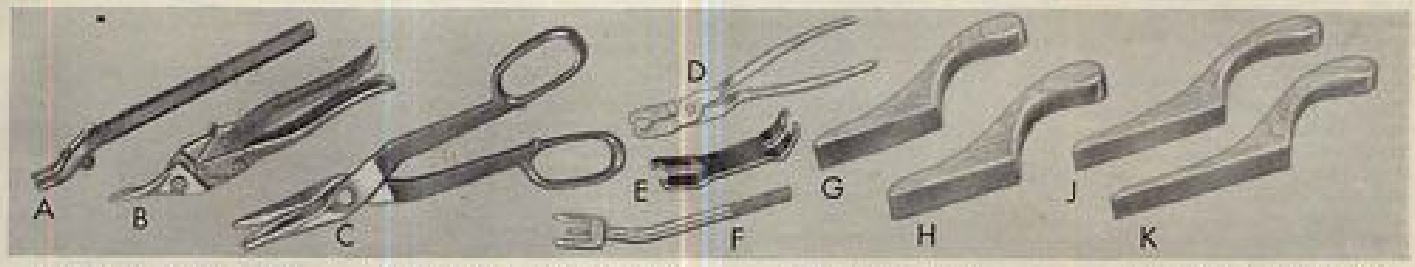
Three different yokes of tubular steel are available to furnish the necessary reach and clearance for various types of body work. The dollies swivel on the tops of the extension pins to maintain a parallel surface with the hammer at all times. Yokes are quickly and easily exchanged as occasion demands by means of the yoke lock and, once locked in position, become a rigid unit with the hammer.

PH-100 BODY HAMMER SET

Consists of the following parts as illustrated above

- (A) **PBH-25-1** ..... Hammer Unit
- (B) **PBH-25-2** ..... 25' Hose and fittings
- (C) **PBH-25-3** ..... Yoke 33" x 18"
- (D) **PBH-25-4** ..... Yoke 20" x 20"
- (E) **PBH-25-5** ..... Yoke 20" x 14"
- (F) **PBH-25-6** ..... Round Corner Dolly 3" x 1"
- (G) **PBH-25-7** ..... Flat Top Dolly 3" x 1"
- (H) **PBH-25-8** ..... Round Corner Dolly 2¼" x 1"
- (I) **PBH-25-9** ..... Extension Pin 3⅝" long
- (J) **PBH-25-10** ..... Extension Pin 4¾" long

Your Snap-on Body Hammer is carefully inspected before leaving the factory and all parts carry a 90-day warranty on workmanship and material.



BODY PANEL CUTTER

Pat. No. 2,199,188

(A) Long cuts in straight, curved or crooked lines are easy with this patented body cutter. Ideal for turret top sections, trunk sections, door panels—all those difficult body jobs where long lengths of metal must be cut. Reaches out of the way places where shears won't work. Cuts through the heaviest body steels easily with successive hammer blows on anvil end of tool. Leaves a clean edge which is especially desirable where a section of panel is removed and then replaced with new steel welded in place. Made from best grade chisel steel. The replaceable blade is made of finely tempered spring steel.

★**BF-708G Panel Cutter.** Complete with one blade.

★**BF-708A-2 Extra Cutter Blade.**

METAL CUTTING SHEARS

(B) Designed primarily for cutting duralumin, stainless steel and other tough, hard metals. The relief of the jaws allows the metal to clear easier after the cut. The edges of the jaws are serrated to give a non-slip cutting grip on the metal and speed up the cutting operation. The compound lever principle is used to exert tremendous cutting power. Another outstanding quality is the special high carbon steel from which the tool is made, and the scientific heat treatment that toughens them for hard service. Blades cannot be guaranteed as they are subject to abuse.

★**BHU-10 Universal Shears.**

★**BH-10 Right Hand Shears.**

★**LBH-10 Left Hand Shears.**

TINNER'S SNIPS

(C) Finest professional quality snips. Because different gauge materials require snips of varied capacities two sizes are offered. They will handle a wide variety of jobs and materials of different weights. These "duck-bill" type tools are hammer forged from high quality alloy steel with special cutting edges accurately ground. Will cut straight, circular or irregular shapes and in either right or left hand direction. Blades are shaped so the metal is drawn into the jaws. Have great leverage for cutting heavy metals. Grips are large to give plenty of finger room.

TS-212 Snips. 2" blades, 12⅝" overall length.

TS-207 Snips. 1" blades, 7" overall length.

DOOR HANDLE PLIERS

(D) **DHP-8 Door Handle Pliers.** Here is a handy tool that will save you a lot of time and fussing whenever you have to remove the clip-type door handle retainers used on General Motors cars. The jaws of these pliers are made very thin so that you can easily slip them in between the handle and the escutcheon plate. The size and shape of the jaws are designed to hold any size retainer clip, and it takes only seconds to reach in, grip the retainer, and extract it. The handles are bent to form an offset with the jaws in order to provide plenty of clearance for your knuckles or over any obstructions. The overall length of these pliers is 7 11/16".

DOOR HANDLE RETAINER TOOLS

(E) ★**GA-1198 Door Handle Tool.** For fast efficient removal of the clip-type door handle retainers used on GM and 1951 Ford, Mercury and Lincoln cars. A different size opening at each end fits both old and new style retainers . . . offset handle provides knuckle clearance for easier operation. Retaining clip is held by the jaws which snap over the clip when the tool is inserted.

(F) **BF-756 Door Handle Tool.** Needed for inside door handles, window regulators, and vent regulators having the pin-type retainers. The forks are tapered and thin and easily slip between the handle and the escutcheon plate. You simply wedge the forks in until the pin of the tool lines up with the pin in the handle—then, a few taps on the end of the tool will drive out the pin.

SOLDER PADDLES

High quality paddles made from choice hard maple to assure long lasting, clog-free service. Work ends have been boiled in tallow to preserve and lubricate the paddles.

- (G) **BF-11 Flat Paddle** 4"x1⅜" blade.
- (H) **BF-12 Flat Paddle** 4"x1⅜" blade.
- (J) **BF-13 Round Paddle** 5"x1" blade.
- (K) **BF-14 Long Flat Paddle** 6"x1⅜" blade.

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WHITWORTH, MILLIMETER & U. S. DECIMAL SIZES OF NUT & CORRESPONDING OPENINGS

Nut Size Nom.		Open End		Socket or Boxocket		Nut Size Nom.		Open End		Socket or Boxocket	
		Min.	Max.	Min.	Max.			Min.	Max.	Min.	Max.
5/32	.156	.158	.161	.158	.163	15/32	.468	.472	.476	.472	.478
4mm.	.157	.159	.162	.159	.164	12mm.	.472	.475	.479	.475	.481
7BA	.172	.174	.177	.174	.179	1/2	.500	.504	.508	.504	.510
3/16	.187	.190	.193	.190	.195	13mm.	.512	.516	.520	.516	.522
6BA	.193	.195	.198	.195	.200	1/4W.	.525	.529	.533	.529	.535
5mm.	.197	.199	.202	.199	.204	17/32	.531	.535	.539	.535	.541
13/64	.203	.205	.208	.205	.210	14mm.	.551	.555	.559	.555	.561
7/32	.218	.221	.224	.221	.226	9/16	.562	.566	.570	.566	.573
5BA	.220	.222	.225	.222	.227	15mm.	.591	.595	.599	.595	.601
15/64	.234	.236	.239	.236	.241	19/32	.593	.598	.602	.598	.604
6mm.	.236	.238	.241	.238	.243	5/16W.	.600	.604	.608	.604	.612
4BA	.248	.250	.253	.250	.255	5/8	.625	.629	.633	.629	.636
1/4	.250	.252	.255	.252	.257	16mm.	.630	.634	.638	.634	.642
17/64	.265	.268	.271	.268	.273	21/32	.656	.661	.665	.661	.668
7mm.	.276	.278	.281	.278	.283	17mm.	.669	.673	.677	.673	.681
9/32	.281	.284	.288	.284	.290	11/16	.687	.692	.696	.692	.699
3BA	.282	.284	.288	.284	.289	18mm.	.709	.715	.720	.715	.723
5/16	.312	.316	.320	.316	.322	3/8W.	.710	.715	.720	.715	.723
8mm.	.315	.317	.321	.317	.322	19mm.	748	.753	.758	.753	.761
2BA	.324	.327	.331	.327	.333	3/4	.750	.755	.760	.755	.763
1/8W.	.338	.341	.345	.341	.347	25/32	.781	.786	.791	.786	.794
11/32	.343	.347	.351	.347	.353	20mm.	.787	.792	.797	.792	.800
9mm.	.354	.357	.361	.357	.363	13/16	.812	.818	.823	.818	.826
1BA	.365	.368	.372	.368	.374	7/16W.	.820	.825	.830	.825	.833
3/8	.375	.378	.382	.378	.384	21mm.	.827	.832	.837	.832	.840
10mm.	.393	.396	.400	.396	.402	22mm.	.866	.871	.876	.871	.879
OBA	.413	.416	.420	.416	.422	7/8	.875	.880	.885	.880	.888
11mm.	.433	.436	.440	.436	.442	23mm.	.906	.911	.916	.911	.920
7/16	.437	.440	.444	.440	.446	29/32	.906	.911	.916	.911	.920
3/16W.	.448	.451	.455	.451	.457	1/2W.	.920	.925	.930	.925	.934

Nut Size Nom.		Open End		Socket or Boxocket	
		Min.	Max.	Min.	Max.
15/16	.937	.944	.949	.944	.953
24mm.	.945	.950	.955	.950	.959
31/32	.968	.975	.981	.975	.984
25mm.	.984	.990	.996	.990	.999
1	1.000	1.006	1.012	1.006	1.015
9/16W.	1.010	1.016	1.022	1.016	1.025
26mm.	1.024	1.030	1.036	1.030	1.039
1-1/16	1.062	1.068	1.074	1.068	1.077
27mm.	1.063	1.069	1.075	1.069	1.078
5/8W.	1.100	1.107	1.113	1.107	1.117
28mm.	1.102	1.109	1.115	1.109	1.119
1-1/8	1.125	1.132	1.139	1.132	1.142
29mm.	1.142	1.149	1.156	1.149	1.159
30mm.	1.181	1.188	1.195	1.188	1.198
1-3/16	1.187	1.195	1.202	1.195	1.205
11/16W.	1.200	1.207	1.214	1.207	1.217
31mm.	1.220	1.227	1.234	1.227	1.237
1-1/4	1.250	1.258	1.266	1.258	1.269
32mm.	1.260	1.267	1.275	1.267	1.277
33mm.	1.299	1.306	1.314	1.306	1.316
3/4W.	1.300	1.306	1.314	1.306	1.316
1-5/16	1.312	1.320	1.328	1.320	1.331
1-3/8	1.375	1.383	1.391	1.383	1.399
35mm.	1.378	1.386	1.394	1.386	1.397
13/16W.	1.390	1.398	1.406	1.398	1.409
36mm.	1.417	1.425	1.433	1.425	1.436
1-7/16	1.437	1.446	1.454	1.446	1.457
7/8W.	1.480	1.488	1.496	1.488	1.499
38mm.	1.496	1.504	1.502	1.504	1.515
1-1/2	1.500	1.508	1.516	1.508	1.520
39mm.	1.535	1.544	1.552	1.544	1.556
1-9/16	1.562	1.571	1.579	1.571	1.582

Nut Size Nom.		Open End		Socket or Boxocket	
		Min.	Max.	Min.	Max.
15/16W.	1.574	1.583	1.591	1.583	1.595
40mm.	1.575	1.583	1.591	1.583	1.595
41mm.	1.614	1.623	1.631	1.623	1.635
1-5/8	1.625	1.634	1.642	1.634	1.646
42mm.	1.653	1.662	1.670	1.662	1.674
1W.	1.670	1.679	1.687	1.679	1.691
1-11/16	1.687	1.696	1.704	1.696	1.708
1-3/4	1.750	1.762	1.770	1.762	1.773
45mm.	1.772	1.782	1.790	1.782	1.795
46mm.	1.811	1.821	1.829	1.821	1.834
1-13/16	1.812	1.822	1.830	1.822	1.835
1-1/8W.	1.860	1.870	1.878	1.870	1.883
1-7/8	1.875	1.885	1.893	1.885	1.898
1-15/16	1.937	1.948	1.956	1.948	1.961
50mm.	1.968	1.979	1.987	1.979	1.993
2	2.000	2.011	2.019	2.011	2.025
1-1/4W.	2.050	2.061	2.069	2.061	2.075
2-1/16	2.062	2.074	2.082	2.074	2.088
2-1/8	2.125	2.136	2.144	2.136	2.151
55mm.	2.165	2.177	2.185	2.177	2.192
2-3/16	2.187	2.200	2.209	2.200	2.215
2-1/4	2.250	2.262	2.271	2.262	2.278
2-3/8	2.375	2.388	2.397	2.388	2.404
2-7/16	2.437	2.450	2.459	2.450	2.466
2-9/16	2.562	2.576	2.585	2.576	2.593
2-5/8	2.625	2.639	2.648	2.639	2.656
2-3/4	2.750	2.766	2.776	2.766	2.783
2-13/16	2.812	2.827	2.837	2.827	2.845
2-15/16	2.937	2.953	2.963	2.953	2.972
3	3.000	3.016	3.026	3.016	3.035
3-1/8	3.125	3.142	3.152	3.142	3.162
3-3/8	3.375	3.393	3.403	3.393	3.414

HERE IS YOUR NEW *Snap-on Tools* CATALOG

Genuine Snap-on Tools Are Available Only From Snap-on

Snap-ons are sold only direct to the user. You won't find them in hardware or automotive stores. You buy direct from Snap-on—and get better tools and better service.

These pages show Snap-on hand tools for mechanics, electricians, service men in radio and refrigeration work, farmers, hobbyists, or any men who like to work with their hands. We hope it will help you choose the tools you need.

Shop Either of These Two Easy Ways

Buy from Your Snap-on Man

There's a Snap-on man servicing your area who will be glad to call on you at your home or place of business. He carries a complete stock of Snap-ons and will show you the tools you're interested in. You can try and buy tools right out of his stock. Just fill in and mail the attached postpaid card.

SC11C-10M

Shop by Mail

Select the tools you need and use the postpaid order form provided for your convenience. We'll mail you an acknowledgment the same day we receive your order and ship promptly. You are guaranteed complete satisfaction — full exchange privileges. (See 5-point Mail Order Plan on page 1 of the catalog.)

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454

Gentlemen:

Please have a Snap-on man call on me. I'm particularly interested in the following:

.....

.....

.....

.....

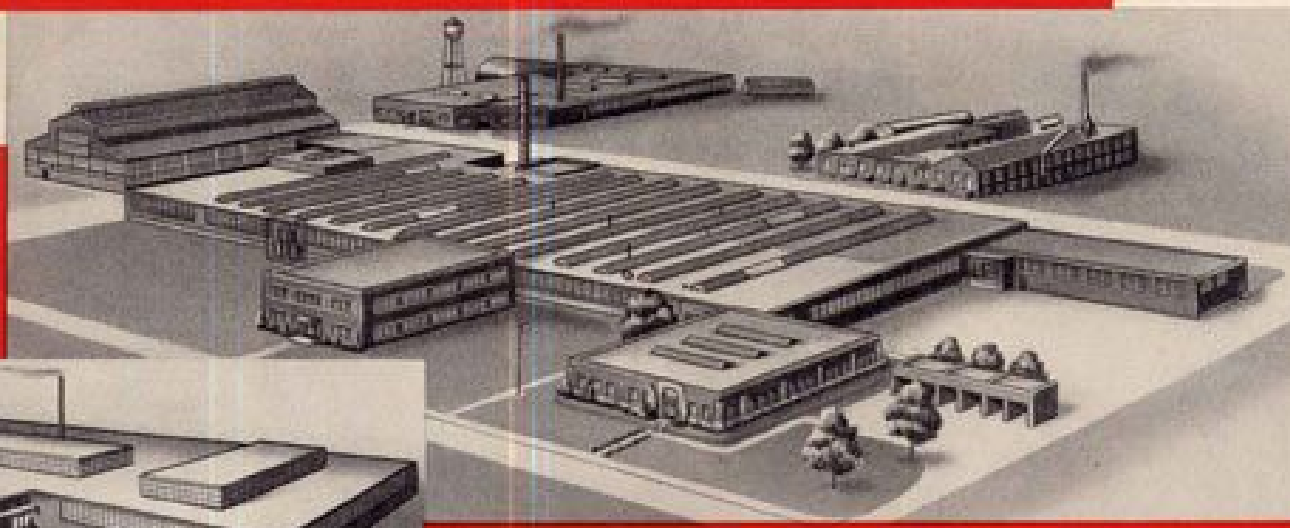
My name is.....

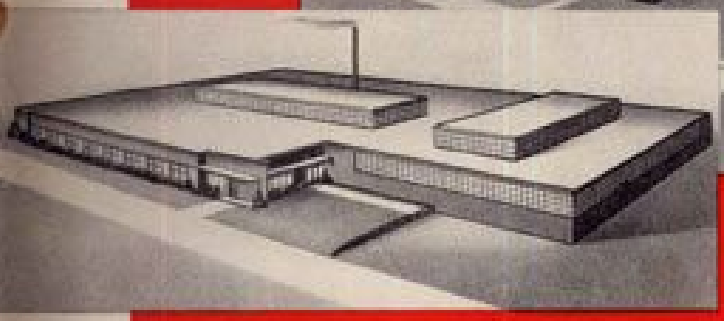
See me at this address.....

.....

Time most convenient to me: ☐ Morning ☐ Afternoon ☐ Evening

NOW...FOUR MODERN *Snap-on* PLANTS





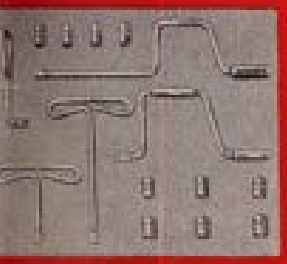
1. Head Offices and Factory of Snap-on Tools Corporation at Kenosha, Wis.
2. Factory and Office at Mt. Carmel, Ill.
3. Factory and Office at Newport, Pa.
4. Canadian Subsidiary's new Factory and General Office Building at Toronto, Ont.

The Satisfaction of Tool Users Everywhere With Snap-on Tools and Snap-on Service Is Responsible for the Continued Growth of

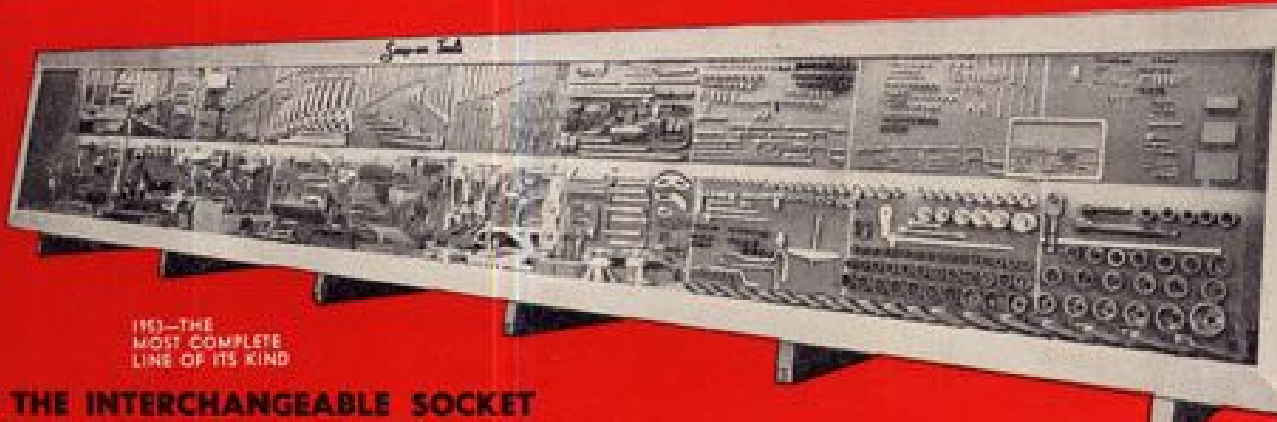
Snap-on Tools Corporation

"Intrepid" is an adjective frequently applied to those who venture upon a project and overcome many difficulties to achieve success. Deserving of this description are the men who originated and introduced the first set of Snap-on interchangeable socket wrenches to the mechanic trade and who since have guided the destiny of Snap-on to a point of leadership in the hand tool industry.

Many factors, such as high quality standards, research, accumulated knowledge, good management, etc., have contributed to Snap-on's rapid growth and excellent reputation. In the final analysis, however, it is the satisfaction of tool users everywhere with Snap-on tools and Snap-on personalized service which has led to the development of the Snap-on line from five handles and ten sockets in 1920 to the most complete line of its kind in 1953.



THE FIRST SNAP-ON SET OF FIVE HANDLES AND TEN SOCKETS—1920



1953—THE MOST COMPLETE LINE OF ITS KIND

ORIGINATORS OF THE INTERCHANGEABLE SOCKET WRENCH AND STILL THE LEADER IN TOOL QUALITY AND SALES

***Snap-on* SERVES INDUSTRY WITH WRENCHES AND MECHANICS' TOOLS**

Snap-on Tools ALL-PURPOSE NUT TURNING SET

5171-GS-B ALL PURPOSE NUT TURNING SET

For General Maintenance Work

Ever think of this—that almost every machinery maintenance job starts and ends with wrench work? When the right kind and size of wrench for any job is ready for immediate use, machinery repair and adjustment time is handled more safely . . . speedily . . . easily and costly "down-time" held to a minimum. This assortment of 171 tools contains every standard wrench size from 5/16" to 1 1/8" in types to handle every conceivable nut turning situation. Complete information on the various tool groups which make up this set can be found by referring to the pages listed below. The socket wrenches are segregated into four groups having 1/4", 3/8", 1/2", and 3/4" square drive. The 5171-GS-B set also includes the KR-56 Snap-on tool chest shown at right.

5171-GS Set. Same as above but without the tool chest.

KR-56 Tool Chest. This Chest and its companion Roll-Cab are described in detail on page six.

Contents of 5171-GS-B Set

Stock No.	DESCRIPTION	Story on Page	Stock No.	DESCRIPTION	Story on Page
119-TM-B	Midget Set in Box	36	FH-607	Flex-Head Wrench Set	40
244-F	Ferret Set	33	75	Ratcheting Boxsocket	40
337A-M	Master Set	37	LTA-806	Tappet Wrench Set	45
414-HD	Heavy Duty Set	36	OXI-705-K	Midget Combination Set in Kit	45
XV-608	Boxsocket Set	42	C-810-K	Ignition Wrench Set in Kit	49
XS-607	Dwarf Boxsocket Set	43	GA-92	Vise-Grip Wrench	50
OS-809	Open End Set	44	KR-56	Metal Tool Chest	6
CS-603	Half Moon Boxsocket Set	40			